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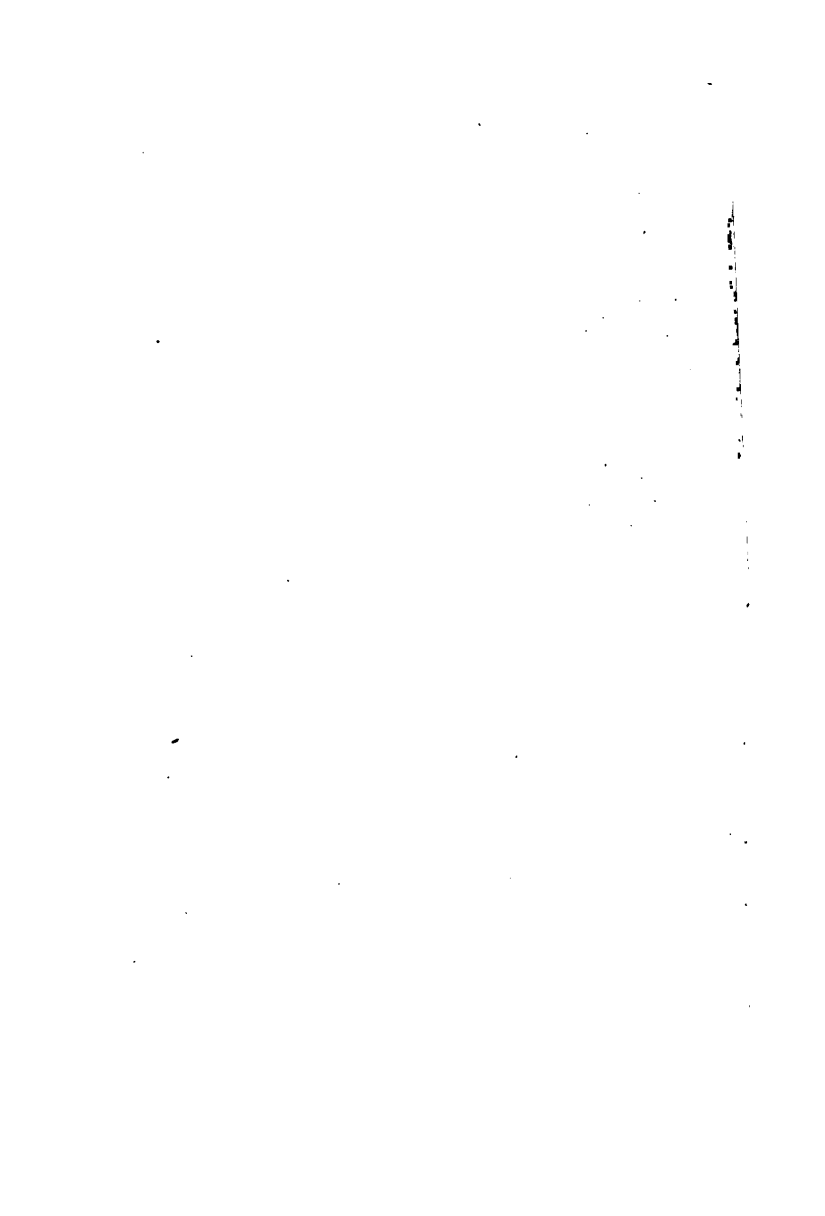
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THE
EARLY EDUCATOR;

OR, THE

Young Enquirer answered;

COMPRISING THE

ELEMENTS OF USEFUL KNOWLEDGE

IN SIMPLE LANGUAGE.

BY

WILLIAM MARTIN,

AUTHOR OF THE "PARLOUR BOOK," "FIRESIDE PHILOSOPHY,"
"INTELLECTUAL CALCULATOR," ETC.

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PREFACE.

ALTHOUGH there are many publications of a character somewhat resembling the present, yet there seemed to be one still wanting, more discursive in its range, and more simple and progressive in its style and arrangement.

The Author has therefore drawn up the following pages, which relate entirely to such knowledge as a child may acquire at an early age.

In most publications written in the catechetical form, simplicity of definition is entirely departed from; and, in reply to tedious and prolix questions, long involved answers are attached, calculated far more to puzzle and confound than to inform the learner.

It has been, therefore, the Author's object, in this work, to avoid such a serious defect,

by giving short questions and short answers, which can be easily understood and easily remembered.

The work also is strictly progressive. The early chapters contain a very simple explanation of what is most common and familiar, while the subsequent ones gradually advance to those that are of rather a higher nature. It is hoped, however, that all the subjects are so treated as to be brought within the compass of a child's understanding.

To render the questions and answers more readily distinguishable, they are printed in different colours, an advantage so obvious as to require no further observation.

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THE EARLY EDUCATOR.

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What is the use of water to you?

I drink it.

What is the use of food?

I eat it and it gives my body Nourishment.

What is the principal food you eat?

Bread, Meat and Vegetables.

What is bread made from?

Bread is made from Wheaten Flour.

What is wheat ?

It is a small Grain sown in the Spring,
which grows up in the Summer, and
is cut down in the Autumn.

After the corn is cut down, what is done
with it ?

It is then thrashed with a Flail and the
Grain drops from the Ear.

What is next done to it ?

It is winnowed by a Machine.

What is winnowing ?

A process by which the Chaff and Dust
is blown away from the Corn, which
falls down into the bottom of the
Machine in a clean state.

What is next done with the wheat ?

It is sent to the Miller, who grinds it
into Flour.

How is this done ?

By bringing the Grain between two

Stones, moving round very quickly,
which crushes it to pieces.

What is done with the flour ?

It is mixed with Water and Yeast and
Salt, and kneaded into Dough.

What is done with the dough ?

It is baked in an Oven, and thus made
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CHAPTER IV.

FLESH USED FOR FOOD.

WHAT are the principal kinds of flesh used
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Beef, Mutton, Veal and Pork.

What is beef ?

The Flesh of the Ox.

What is mutton ?

The Flesh of the Sheep.

What is veal ?

The Flesh of the Calf.

What is pork?

The Flesh of the Pig.

What is bacon?

The Flesh of the Pig salted and dried.

What is lamb?

The Flesh of a young Sheep called a Lamb.

What are sausages?

They are made of Pork or Beef cut small and stuffed into Skins.

CHAPTER V.

FISH USED FOR FOOD.

WHAT kinds of fish are eaten?

Cod, Soles, Herrings, Skate, Mackerel, Turbot, Eels, Salmon.

Where is cod caught?

Off the coast of Newfoundland, and also on the coasts of our own country.

Where are herrings principally caught?
They are taken in Nets in the North Seas.

How are mackerel caught?
Either by the Line or Net.

Where are they taken?
In the English Channel, in large quantities, at all seasons.

Where are soles caught?
Principally on banks opposite the Dutch Coast.

Where are salmon caught?
They are caught principally along the coasts of England and Holland.

How are they taken?
Chiefly by Nets in the sea, but in rivers by Weirs.

What is a weir?
A kind of Trap, into which the Fish can enter, but cannot return.

Where are anchovies caught?
Principally on the coast of Catalonia.

How is the fishing performed ?

Principally in the Night Time, when a light being placed in the Stern of the Vessel, the Anchovies flock round it, and are caught in Nets.

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WHAT are the principal shell-fish ?

Crabs, Lobsters, Oysters, Prawns, Shrimps, Whelks, Periwinkles.

How are crabs caught ?

Principally in Traps called Pots, sunk to the bottom of the Sea, into which the Fish get and cannot escape.

How are oysters obtained ?

They are found naturally in Beds, and

raked from the Sands or Rocks by instruments made for the purpose.

How are lobsters caught ?

By Traps let down to the bottom of the Sea, and in Nets.

How are shrimps taken ?

By men who go out on foot into shallow parts of the Sea with a Net upon a long pole which they draw through the water.

Where are periwinkles found ?

They are found adhering to the Rocks, in large clusters, and taken off at low water.

What are pearls ?

Pearls are Concretions found in the body of the Pearl Oyster.

How are they supposed to be produced ?

By a Disease of the Fish.

How are they obtained ?

By Divers, who go to the bottom of the Sea and remain there for several minutes together, collecting the oysters.

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BIRDS USED FOR FOOD.

WHAT birds are principally used for food ?
Fowls, Geese, Turkeys, Ducks, Part-
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Snipes, Quails and Grouse.

Where are pheasants found ?
In most parts of England, especially in
the East and South.

What do they feed on ?
They eat Acorns, Beech Mast and Corn.

What kind of bird is the partridge?

It is smaller than the Pheasant and is found in most parts of England and the Continent.

What kind of bird is the quail?

It is smaller than the Partridge and darker in colour.

Where is it found?

In almost every part of Europe, also in Asia, and abundantly in Siberia.

Where does the turkey come from?

It came originally from Mexico, but is now common in several parts of the world.

When was it introduced to England?

In the year 1524, and from thence to other parts of Europe.

Where are grouse found?

They frequent sequestered Spots, especially Moors and Heaths.

Where are the geese principally found in their wild state ?

They are very widely distributed, especially in cold countries.

When are they generally eaten ?

Commonly at Michaelmas.

Why are they especially eaten at this time ?

It is difficult to account for the custom ; but it is said that Queen Elizabeth was dining from a Goose when she heard of the Destruction of the Spanish Armada at that season of the year.

CHAPTER VIII.

VEGETABLES USED FOR FOOD.

WHAT are the principal vegetables used for food ?

Potatoes, Carrots, Cabbages, Turnips,
Peas, Beans, Artichokes, Radishes.

From whence came the potato originally?
From South America.

Who brought it to England?
Sir Walter Raleigh, who planted it on
his estate at Youghal near Cork.

Of what nation is it the principal food?
The Irish.

Is it to them a blessing?
It is prevented from being so by its
almost exclusive Cultivation, so that
when the Crop fails, there is no sub-
stitute for it.

Has the potato crop ever failed in Ireland?
Yes, particularly in the year 1846, when
many thousands of persons died of
famine in consequence.

What is the Jerusalem artichoke?
A native of Brazil, from which place it
was brought in 1617.

How did its name originate?
It is a corruption of the Spanish name
Girasole.

What kind of plant is the turnip?

It is a hardy Annual, and grows wild in some parts of England.

What is the carrot?

A hardy Annual Root, which grows best in sandy soils.

What is the parsnip?

A white Annual Root, in shape like a Carrot, which thrives in light soils.

What beverage is made of the parsnip?

A very good Wine, and also a strong Spirit.

What is the original of the cabbage plant?

The original plant is called Colewort, which grows wild in many parts of England.

What are the principal varieties of it?

The Savoy, Brussels Sprouts, Borecole, Cauliflower, and Brocoli.

Whence came the onion ?

It is a native of Spain, and was introduced in 1650.

What is asparagus ?

A Perennial Plant, found naturally in stony or gravelly places near the sea.

Does the asparagus we eat resemble the wild plant ?

Very little, as it is greatly altered and improved by Cultivation.

What is sea-kale ?

A Sea-side Plant, which shoots up in March and April from the sand near the sea-shore.

How is it cultivated ?

By being kept from the Air and Light, under rich beds of Manure.

What is the truffle ?

A kind of Fungus, about the size of a large marble, which is found in various parts of England, France and Italy.

How is it procured?

Dogs are trained to hunt for it by their
Scent.

CHAPTER IX.

THE PRINCIPAL FRUITS.

WHAT are the principal eatable fruits?

Apples, Pears, Plums, Cherries, Currants, Grapes, Peaches, Nectarines, Apricots.

What others come principally from foreign countries?

Oranges, Lemons, Pine Apples, Dates, Olives and Citrons.

How are the best apples produced?

By grafting an Apple Branch of a good Sort upon the Stock of a Wild Crab.

How is this grafting performed ?

A young Crab Tree is cut off at the top, and then an Incision being made, and the small Bud or Scion of an Apple Tree is inserted and covered up with Clay, at the place of Insertion, when the Scion unites with the Tree.

What are prunes ?

French Plums dried.

What are raisins ?

Grapes, which have been dried in the Sun.

From what countries are dried figs exported ?

From Turkey, Spain, and Italy; they come to England in round boxes called Drums, from their resemblance to that instrument.

From whence do we obtain oranges and lemons ?

Principally from Spain and Portugal.

What is the lime ?

A small kind of Lemon found in the West Indies and in America.

What is the use of lime and lemon juice ?
They are excellent medicines, and prevent the Scurvy among Sailors.

Is it extensively used for this purpose ?
Yes, of late years every Ship making a long Voyage is obliged, under a heavy Penalty, to take out a sufficient supply of this Liquor.

What is the original country from which the peach and nectarine came ?
They came originally from Persia.

What is the difference between the two fruits ?
The Nectarine is the same fruit as the Peach, having a smooth skin.

Whence came the gooseberry ?
It was originally brought from Flanders,

and from birds having distributed the seeds, is often found growing wild in England.

Whence came the apricot?

This Fruit was brought originally from America, where it was found wild in 1694.

From what place do we derive dried currants?

They are the produce of a kind of Vine, and are in fact a kind of small Grapes, which grow in Greece and the Ionian Islands.

Is the cherry an English fruit?

It grew originally in the Island, at the time of its Conquest by the Romans, but has been improved by grafting it with foreign kinds.

Is the plum indigenous to this country?

Yes, it was found in large quantities in

the old English Woods, and is now frequently met with.

What is the original of the damson?

The common Wild Sloe of our Hedges.

Where is the cranberry produced?

It grows wild in fenny places, in the North of England, but the larger portion used come from North America.

What is the olive?

The produce of the Olive Tree, found in Spain, Italy, and the South of France.

How is it eaten?

Generally as a Dessert.

What is made from them?

Olive Oil, which is exceedingly useful.

CHAPTER X.

EDIBLE VEGETABLES.

WHAT other fruits are used for food?

Cucumbers, Yams, Melons, Capers, Shalots, Leeks, Garlic, Cloves, Mangoes, Plantains, &c.

What is the plantain?

A Fruit growing in hot countries in large Bunches on the summit of a slender tree, much in the form of a Cucumber.

What is the banana?

A smaller variety of the Plantain.

How are these fruits eaten?

They are either boiled, or, being cut into small slices, roasted or fried.

Whence came cucumbers originally?
From Egypt and Syria; and allusion is made to them in the oldest Writings, as being an important article of Food in ancient times.

Where do melons grow?
In all the warm countries of Europe, as Spain, Portugal, Italy and Greece.

What is the yam?
A large black root, sometimes five feet long, and as thick as a man's leg. In America it is the substitute for the Potato.

What are capers?
The Buds of a small creeping plant, which grows plentifully in the South of France.

What are shalots?
They are natives of Palestine, red, small plants of the Garlic Tribe.

What are chives?

A small root something like the Shalot.

Where is garlic principally found?

It grows largely in Spain and Portugal,
where the Natives eat it in great quantities.

CHAPTER XI.

COMMON BEVERAGES.

WHAT other vegetable substances are
commonly used in our food and drink?

Tea, Sugar, Coffee, various Spices and
Seeds.

What kind of a plant is tea?

It is a small plant of the Camellia species;
an evergreen about three feet high, re-
sembling a Myrtle.

Where is it found?
Principally in China.

How is it cultivated?
The seed is sown, and when the plants
are grown up, they are transplanted.

When does it come into bearing?
In about three years when the Leaves, are
plucked off.

When is the proper time of picking the
leaves known?
By the plant putting forth its white
Blossoms.

How many kinds of tea are there?
Several kinds are enumerated by the
Grocers, but there are only two very
distinct kinds.

Which are these?
The Green and the Black.

What is the difference between bohea, sou-chong, gunpowder, hyson, pekoe, &c. ?
They are gathered from the Tea Plant at different seasons of the year.

When is the first gathering made ?
In the latter end of March and beginning of April, when the Leaves and Buds are very green and tender ; this gives the finest Teas, such as Pekoe.

When does the second gathering take place ?
About the middle of May.

When does the third gathering take place ?
In the beginning of June.

Which are considered the best teas ?
Those of finest flavour are from the Leaves first gathered ; those of the strongest are from the second gathering.

How are the leaves prepared after gathering ?
They are first dried in the open Air, and

rubbed by the Hand into a curled form, and afterwards roasted on Iron Plates.

When was tea first introduced into Europe?

In the year 1610, by a Dutch Merchant.

When did the East India Company first direct their attention to it?

About the year 1669, in the reign of Charles II. Their first order was only for 144 lbs.

What is sugar derived from?

A plant called the Sugar Cane.

What kind of a plant is it?

It is one of the Grass Tribe which grows up like a Reed to the height of five or six feet, with a Stem about as thick as the wrist.

How is sugar produced from the cane?

The Cane is first cut down, and then

crushed or bruised in a Mill, and the Juice collected.

What is done with the juice ?

It is boiled, and skimmed till it becomes pure, and a portion of it then crystallises.

What is the coarse remainder of the juice called ?

Molasses.

How is loaf or lump sugar made ?

By still further boiling and purifying.

What is treacle ?

The Syrup that will not crystallise in the manufacture of Loaf Sugar.

What is coffee ?

The Berry of a Plant which grows in Arabia, and the East and West Indies.

What kind of plant is it ?

It resembles the Jasmine Tree, and when in flower is very beautiful.

When was it introduced to this country?
In the year 1652, by a Greek Servant,
who opened the first coffee-house in
George Yard, Lombard Street.

From whence do we get the finest
coffee?

From Mocha, in Arabia.

Where do the largest supplies come from?
From the West Indies; this is called
Plantation Coffee.

What is the taraxicum coffee?
It is nothing more than the Root of the
Dandelion, washed, dried and powdered.

Is this thought to be wholesome?
Yes; but it is not advisable to drink it
for too long a period.

How is the coffee berry prepared for use?
The Berries are roasted in an iron
Cylinder over a slow Fire, and then
ground.

What is the medicinal effect of coffee ?
It is exhilarating to the Spirits, but it is apt in some persons to affect the Head unpleasantly, and ought always to be drunk, if strong, with at least half its quantity of milk.

CHAPTER XII.

VEGETABLE PRODUCTIONS USED IN THE ARTS OF LIFE:

WHICH are the most useful trees ?
The Elm, the Oak, the Beech, the Chesnut, the Sycamore, the Birch, the Fir, the Poplar, the Lime, and the Willow.

What are the most useful foreign trees ?
The Teak Tree, and the Mahogany Tree.

What is the oak principally used for?
For Ship Building, for Mill Work, and
other purposes where great strength
and durability are required.

What is the bark used for?
For tanning Leather, and for dyeing.

What is the wood of the elm used for?
The Wood of the Elm is used for Carts,
Coffins, Wagons, Palings, and many
other purposes.

What is its principal advantages?
It does not undergo Decay from any
excess of Moisture.

What is the wood of the ash used for?
Principally for Wheels, Ploughs, Har-
rows and Oars.

What is the use of the sycamore?
It is chiefly used for the Manufacture of
Articles turned by a Lathe, and for
various Household Utensils.

What is beech wood used for?

Principally for Bedsteads, Kitchen Chairs, and common articles of Furniture.

What does the pine or fir-tree furnish?

From it is derived Deal, of which the Flooring of Houses, the Window Frames, Shutters, and many other things are made.

What useful substances does this tree produce?

Turpentine, Resin, Pitch and Tar.

How are turpentine and resin obtained?

At Spring time the tree is tapped by a Hole being bored near its bottom, from which the Sap oozes out.

What is done with the sap?

It is boiled and clarified; the sediment that remains is called Resin.

How is tar prepared?

The tree in this case is cut down, and

burned in a kind of furnace, and the Tar runs from it.

How is pitch procured?

It is the thick Refuse of the Tar, from which it is obtained by boiling.

What is the wood of the birch tree used for?

It is much used by Wheelwrights and Turners. The best Charcoal is made from it by burning.

What is the lime tree used for?

Being a soft wood, it is easily carved and turned, and is employed for the Boards of Leather Cutters.

What is the use of the willow?

Its Twigs are formed into Wicker-Work, and used for Springles, to fasten down Thatch.

How is box wood employed?

Principally in Turnery, and for Mathematical Rules, Slides, &c. Large

quantities are also employed by the Wood-engravers.

How is wood-engraving performed?

The Design is drawn on a piece of Box Wood, which has been smoothly polished; and the Engraver cuts away all those parts not touched by the Pencil.

What is then done with the block?

It is put under the Printing Press, and, being very nicely adjusted, it is inked; the paper is then laid over it, and the impression taken.

What is the use of the walnut?

It is useful both for its Fruit and its Timber.

What is made of its wood?

Gun Stocks, and various articles of Furniture.

What is the wood of the larch tree used for?
For works under Water, for the Staves of Casks, and the Roofs of Houses.

CHAPTER XIII.

VEGETABLE PRODUCTIONS USED IN THE
ARTS OF LIFE—TREES.

WHERE is the mahogany tree found?
It is a native of Honduras, and some of
the West India islands.

What is its use?
It is used for almost every article of
Furniture, Tables, Chairs, Bedsteads,
and Sofas.

Of what place is the cedar tree a native?
Of Syria, and particularly of the moun-
tains of Lebanon.

What are its properties?
It is very fragrant, and beautifully
marked.

For what is it used ?

For ornamental Boxes, the insides of Drawers, and for Black Lead Pencils.

What is the plane tree ?

A tree which grows to an enormous size in the United States of America and in the East.

What is this tree called in America ?

The King of the Forests ; it also bears the name of Sycamore.

To what size does it attain ?

Sometimes it measures as much as a Hundred Feet in girth.

What is the banian tree ?

A very curious tree, which forms new Trunks from its Branches, which bend downwards and take root.

What effect does this produce ?

A single tree is, by this mode of growth, formed into many trees, and resembles a small grove.

Where is this tree found ?

In various parts of India, where it forms a delightful shade from the heat of the Sun.

Where is the most noted of these trees ?

In the Island of Nerbudah, off the coast of Hindostan.

What is the number of trunks in this tree ?

The large Trunks amount to 350, and the smaller ones exceed 3000. Its Circumference is nearly 2000 feet.

What is its fruit ?

Its Fruit bears the name of the Indian Fig; it is small, and of a bright scarlet colour.

Is its fruit eaten ?

Not by Man ; but it is eaten by Birds, Monkeys, and other animals, which make the tree their abode.

What is the bamboo ?

A very tall Reed-like plant, as thick as a

man's arm, and growing to the height of fifty feet.

Of what countries is it a native?

Of the Tropical Regions of Asia and America.

What is its use?

It is used in building Houses, and as a Material for many Articles of Furniture, for Fences, Water-Pipes and the Masts of Boats.

What is the bread-fruit tree?

A valuable Tree, which grows in profusion in the Islands of the South Seas.

What kind of fruit does it bear?

The Fruit is round and about the size of a Child's Head.

What part of it is eaten?

That which lies between the Skin and the Core, which has the consistency of New Bread.

How is it eaten ?

It is generally cut into Slices, and roasted on Hot Embers.

Are any other parts of the bread-fruit tree useful to man ?

Yes ; the Inner Bark, which is fibrous, is made into Cloth ; the Wood is used for building ; and its juice is used for Caulking, like Pitch.

What is the teak tree ?

It is a native of India, and grows as large as our Oak, and the wood is almost as durable.

What is it used for ?

For the same purposes as Oak.

From whence does the largest quantity of teak timber come ?

From Pegu and the coast of Malabar.

What is the most curious tree in Africa ?

The Baobab or Sour Gourd Tree.

What is its use?

The Pulp of the Fruit is eaten when fresh, and when dried used in Medicine.

Does this tree attain to a great age?

Yes, a Tree of this sort is described by Mr. Adamson, the Traveller, supposed to be Five Thousand Years'old.

What is rosewood?

It is the produce of a Brazilian tree, called by the natives the Jacavanda.

To what use is it applied?

Formaking and veneering Furniture, and various kinds of Ornamental Articles.

Where does the ebony tree come from?

Ceylon, Africa and the West Indies.

What part of the tree is generally used?

The Centre, which is of a jet Black.

By whom is it principally used?

By Cabinet-makers, for inlaying and veneering.

CHAPTER XIV.

BEER, WINES, SPIRITS, DISTILLATION,
BREWING, ETC.

WHAT is beer ?

A fermented Liquid.

What is it made of?

Malt, Hops and Water.

What are the first processes in making
beer ?

Boiling Water is poured upon the Malt,
and the liquor thus formed, called
Sweet Wort, is boiled with the Hops.

What is done after this ?

The Liquor is placed in a large Shallow
Vessel to cool.

And is this perfect beer ?

No ; it is then before it is cold set *to work*, by adding to it a small quantity of Yeast.

What is yeast ?

A thick Portion of Beer, which rises to the top in the process of Fermentation.

What happens during this process ?

Quantities of Carbonic-Acid Gas are thrown off, and the Beer becomes clear.

What is the use of the hops in beer ?

Hops are used to make the Beer keep ?

Why do they make it keep ?

By means of their Bitter Quality, which prevents it from becoming Sour.

How is malt prepared ?

Barley is wetted and then kept in a warm, close place, called a Malt House, till it begins to sprout.

What is then done with it ?

It is then drawn from the Malting Floor, and is ready for use.

Why does the sprouting of the barley make it fit for brewing beer ?

When Barley begins to sprout, it becomes very sweet ; and it is the sweet or Saccharine Property which is required in making Beer.

What are hops ?

The Seeds of a climbing Plant which grows in Kent, Surrey, and other parts of England.

How is the plant reared ?

The Roots, or Suckers, are planted in the Spring, and long Poles placed near them, up which they climb. The Poles are taken down with the Plants adhering to them, and the Hops are gathered in Autumn.

What is done with the hops after they are gathered?

They are dried, and, being pressed into large Bags, are fit for Sale.

What is distillation?

A mode of extracting the Spirit from any Substance.

What is the principal agent employed?
Heat.

How is the process accomplished?

The Substance to be distilled is placed in a Vessel and Heat applied beneath; when the lighter or Spirituous Part arises from its surface in the form of Vapour.

What occasions the vapour to rise?

The Particles of all Bodies are repelled by Heat, and the lightest, or most volatile, the most easily.

What becomes of the vapour rising from open vessels ?

It rises into the Atmosphere and is lost.

How is this prevented in distillation ?

The Vapour is caught in Pipes, which pass through Cold Water. The cold then condenses it and converts the spirituous Vapour into a spirituous Liquor, which is drawn off at the end of the pipe.

What name does the purest spirit obtain ?
Alcohol.

What is brandy ?

A Spirit distilled from the Refuse of the Grapes left from wine-making.

Where is it principally prepared ?
In France.

Which is considered the best brandy ?
That imported from Languedoc and Anjou.

What is gin distilled from?

Malt, with the addition of Juniper Berries, which give it its peculiar flavour.

What is the juniper?

A small Plant, cultivated in various parts of England, of a strong aromatic flavour.

What is the spirit called Hollands?

A Spirit distilled from nothing but Juniper Berries.

What is rum?

A Spirit distilled from Sugar or the juice of the Sugar-Cane.

What is whiskey?

A strong Spirit distilled from Malt, and several kinds of vegetables, by the Scotch and Irish.

What is arrack?

A Spirit distilled from Rice and the Juice of the Cocoa-Nut Tree.

Where is it principally used ?
Among Eastern Nations.

Are spirituous liquors wholesome ?
By no means ; in most cases they are
very pernicious.

What is their use ?
For Medicinal Purposes : when the Cir-
culation requires to be assisted, they
are occasionally serviceable.

What is their abuse ?
The practice of taking them as a Diet
Drink, or for raising the Spirits.

CHAPTER XV.

WINE.

WHAT are the principal foreign wines drank in this country?

The principal Foreign Wines are Sherry, Port, Burgundy, Madeira, Claret, Champagne, and some others.

From what fruit are these wines made?

They are all made from Grapes.

What are the principal home-made wines?

Elder, Cowslip, Gooseberry, Currant, Parsnip, Ginger and Raisin.

What is champagne?

A French Wine, which is bottled before the Fermentation has gone off, which causes it to effervesce when the Bottle is opened.

What is sherry?

A Spanish Wine, brought chiefly from Xeres, in the province of Andalusia.

What is claret?

A thin, but finely flavored French Wine.

What is Madeira wine?

A Wine made in Madeira and the Canary Islands.

What is port wine?

A Wine manufactured from the Juice of the Red Grape, in the neighbourhood of Oporto, in Portugal.

What is tent wine?

A Wine prepared from a Sweet and Ripe Grape, growing on the mountains near Malaga in Spain.

What is hock?

A German Wine.

Whence has it its name?

From the Town of Hockstadt in Suabia.

What is Burgundy?

A rich Wine, of a beautiful red colour, made in the province of Burgundy in France.

What are those commonly called Cape wines?

They are Wines made at the Cape of Good Hope.

What is cider?

The Juice of the Apple.

How is it prepared?

The Apples are crushed in a Mill, and the Juice, after being fermented, is put into Casks.

What is perry?

The Juice of the Pear, prepared in the same manner.

Which are the principal counties famous for cider?

Devonshire and Herefordshire.

How are home-made wines prepared?
Some are prepared by boiling, and others by macerating (or soaking) the Fruit, but all undergo the process of Fermentation.

CHAPTER XVI.

ARTICLES USED AT THE DINNER TABLE AND IN COOKERY.

WHAT is the most useful of culinary or cooking articles?
Salt.

How is salt obtained?
It is found in large Masses in various parts of the Earth, and is also obtained from Sea-Water, and from the Water of Salt Springs.

From whence does our principal supply come?

From Northwich, Nantwich, and other places in Cheshire, and the neighbouring counties.

Where are the most famous foreign salt-mines situated?

In Poland.

What is vinegar?

A Sour Liquid, produced from some fermented liquor exposed to the Heat of the Sun.

How is the common vinegar manufactured?

A weak Malt Liquor is prepared, which is made to undergo what is called the Acid Fermentation.

How is the best vinegar made?

By the same process, only that the Grape Skins left after the manufacture of Wine are used instead of malt.

What is mustard ?

The Seeds of a well-known Plant ground to Powder.

Where is it principally grown and prepared ?

In the County of Durham.

What is pepper ?

The Berry of an East Indian Plant.

From what is Cayenne pepper made ?

From dried Capsicums, which are the Seed Pods of a Plant.

What is ginger ?

The dried Root of a Plant resembling a Rush, which grows in very Hot Climates.

What is the nutmeg ?

The Kernel of the Nut of a Tree resembling the Laurel.

What is mace ?

The net-like Filaments found between the Nutmeg and its outer coat.

What is cinnamon ?

The dried Bark of a Tree which grows in the Island of Ceylon and other parts of the East Indies.

What are cloves ?

The Flower Buds of a Tree growing in the Malacca Islands.

What is arrow root ?

The dried Root of a Plant growing in America and the West Indies ground to Powder.

What is the anchovy ?

A small Fish, caught chiefly on the coast of Gorgona, an Island near Leghorn.

What is Indian soy ?

A Liquid made from the Seeds of a Chinese Plant.

What is catsup or ketchup ?

The Juice of the Mushroom.

CHAPTER XVII.

WEARING APPAREL—THE SHIRT.

Of what are shirts generally composed ?
Of Cotton.

Are not shirts sometimes made of linen ?
Yes ; but Cotton is warmer and more
wholesome.

Why is it more wholesome ?
Because it better absorbs the Perspira-
tion and keeps out the Cold Air.

From what is cotton derived ?
From the Cotton Plant, which grows in
the East and West Indies and other
Warm Climates.

What kind of a plant is it ?

There are two kinds ; one called the Tree Cotton, of considerable size, and the other a small Shrub. The Seeds are found in a Pod about the size of a Walnut, surrounded by the soft substance which we call Cotton, or Cotton Wool.

How is it prepared ?

The Pods are dried in the Sun, till the Seeds become hard, and then they are separated from the Cotton.

What is next done with it ?

It is packed in Bales, and then shipped for England.

What process does it go through in England ?

It is carded ; that is, combed with Wire Combs, spun in Thread, and woven into various Fabrics.

What are the principal fabrics or goods made of cotton ?

Calico, Muslin, Dimity, and many others.

From what places is the greater part of the cotton we use imported ?

From the East and West Indies, and from the South Part of North America.

What quantity is annually imported from these places ?

Above a Thousand Millions of Pounds.

How many cotton manufactories are there in England ?

Above a Thousand.

How many looms ?

Above 200,000 Hand and 110,000 Power-Looms.

What is a power-loom ?

A Loom worked by Machinery and Steam.

How many persons do they employ ?
About a Quarter of a Million of Persons.

What quantity of cotton goods are sent to
foreign countries ?
About Twenty Million Pounds' worth
annually.

From what places was cotton originally
brought to England ?
From Cyprus and Smyrna, in the year
1600.

Who improved in the greatest degree the
machinery by which cotton is spun ?
A Carpenter, named Hargrave, who in-
vented the Spinning Jenny.

Who made a great improvement upon this
invention ?
Arkwright, who invented the Spinning
Frame.

What is fustian ?
A sort of Cotton Cloth, sometimes with

a mixture of Flax or Hemp, but generally made entirely of Cotton.

What is muslin?

A fine Cotton Fabric, loosely woven.

Which are the best kinds of muslin?

Those of India, which come from Bengal and Decca, and those of British Manufacture, which are little inferior, made chiefly at Glasgow and Paisley.

CHAPTER XVIII.

WEARING APPAREL—THE COAT.

. WHAT are coats and jackets generally made of?

Wool.

From whence is wool derived?

. From the Back of the Sheep.

What is the wool called when cut from
the back of the sheep?

A Fleece.

How is this divided according to the
quality of the wool?

Into Three Sorts.

Where is the best wool found?

On the Neck and Back of the Sheep.

From what part is the second quality
taken?

From the Breast and Tail.

Where is the lowest quality found?

On the Breast and Belly of the Sheep.

From what place does the best wool come?
From Spain.

From what kind of sheep is it taken?
From the Merino Sheep.

How is it manufactured?
First it is well washed or scoured, and
then beaten and picked.

What is the next process ?

It is carded.

What is its next process ?

It is spun into Woollen Yarn.

How is it woven into cloth ?

By means of a Machine called a Loom.

When the cloth is woven, what is next done to it ?

It is well washed and dried, and afterwards washed again.

What is done to it after this ?

It is first smoothed, and then the fine ends of the Wool are raised so as to conceal the distinct Threads.

What is this called ?

Raising the Nap.

How is the process performed ?

By rubbing the surface of the Cloth with the Seed-Vessel of a Plant, called

the Teasel, which consists of a number of little Hooks.

What other process does the cloth undergo?

It is sheared, to cut off any coarse ends that may stand up, and then pressed, so as to give it a gloss.

Into whose hands does it now come?

Into the Tailor's hands, who makes it into coats, waistcoats, trowsers and other garments.

CHAPTER XIX.

WEARING APPAREL—THE PINAFORE.

Of what are pinafores generally made?
Of Holland.

What is Holland ?

A coarse kind of Linen.

Of what is linen made ?

Of Flax.

What is flax ?

An Annual Plant, which is cultivated in various parts of England, Ireland, and other countries.

What kind of a plant is it ?

A small, slender Plant, with a thin, delicate Stem, and a beautiful blue Blossom.

How is it cultivated ?

The Seed is annually sown, and the Plant grows to about the height of three feet.

When is the plant cut down ?

As soon as it is ripe, in the Autumn.

What is then done with it ?

The Stems are soaked in Water, till the soft parts begin to rot.

What is next done with it ?

It is then beaten, so as to separate the long, stringy Fibres.

What is done with these ?

They are carefully cleaned and combed.

What is the next process ?

The Fibres are spun into Threads.

How is the spinning performed ?

By the Distaff, Hand-wheel, or by Machinery.

What other operation does it undergo ?

It is woven into Linen.

What is the linen done with when it is woven ?

It is washed, scoured and bleached.

What is the last process ?

It is straightened, mangled, folded and pressed.

Who sells it when it is thus finished ?

The Linen-Draper.

What are the frills of shirts made of ?

Cambric.

What is cambric ?

Very fine Linen.

From what country do we obtain the finest cambric ?

From France.

Of what are sheets, towels and table-cloths made ?

The coarse are made of Hemp, and the fine of Flax.

What is hemp ?

The Fibres of a tall Plant, which frequently rises to the height of six feet.

How is this prepared for use ?
In the same manner as Flax.

What is principally made from hemp ?
Coarse articles, especially Ropes, String,
Mats, Sacks, Sail-Cloths, and similar
articles.

To what uses are ropes applied ?
To fasten things together, and to haul
them about by, as in the Rigging of
Ships.

From whence does our principal supply
of hemp come ?
From Russia.

CHAPTER XX.

WEARING APPAREL—THE HAT AND SHOES.

WHAT are hats made of ?
Either of Silk or Beaver.

What is beaver ?

The Fur of an Animal, called the Beaver,
found chiefly in North America.

Is the whole of a beaver hat made of
beaver fur ?

No ; the inside, called the Body, is made
of Felt.

What is felt made of ?

Wool or common fur matted together.

Where is the beaver fur placed ?

On the Outside of the Felt.

How is it put on ?

By being worked into the Body of the
Felt, by means of stiff Brushes.

What other fur is used for common hats
instead of the fur of the beaver ?

That of the Rabbit and Hare.

How does the fur become of a black
colour ?

It is dyed in a solution of Logwood and
Iron.

What is the loose fur of the hat called?
The Nap.

What are your shoes made of?
Leather.

What is leather made from?
The Skins of animals.

How are they prepared?
First they are steeped in Lime-water,
and then the Hair is scraped off with
a knife.

Is this all that is necessary to make
leather?
No; the Skin must now be tanned.

How is this performed?
The Skins are suspended in a Pit which
contains a strong Solution of the Bark
of the Oak Tree.

How long do they remain in the pit?
For several Months.

What is next done to the skins?
They go into the hands of the Currier.

What operation does he perform on them ?
He washes, scrapes and stretches them
on Wooden Frames.

What does he do besides ?
He rubs Tallow and Oil into the Pores
of the Skins to make them supple.

What is the last process ?
The Skins are dyed the Proper Colour,
Black, Red or Green, and again oiled
and greased.

Who makes leather into shoes ?
The Shoemaker or Cordwainer.

Of what parts is a shoe composed ?
The Sole and the Upper-Leather.

What leather is the sole made of ?
The Hide of the Cow.

What leather is the upper part made of ?
The Skin of the Calf.

CHAPTER XXI.

WEARING APPAREL—THE GLOVES—THE STOCKINGS.

Of what leather are gloves generally made?
Of that made from the Skin of the Kid.

What is a kid?

The young of the Deer or the Goat.

Of what skins are the stronger kinds of
gloves made?

Of the Skins of the Doe and Buck.

What is Morocco leather?

The Skin of Goats tanned and dyed in
a peculiar manner by the Turks.

From what country are kid gloves largely
imported?

From France.

For what is the leather made of the skin
of the sheep used ?

For making common Gloves to imitate
Kid, for the binding of Books, and
many other purposes.

What are the defects of sheep-skin leather ?
It is very weak and easily torn.

Of what are stockings made ?
Of Worsted, Cotton and Silk.

How are worsted stockings made ?
They are woven from Woollen Yarn.

Are they always woven ?
No ; sometimes they are knit by the
Hand.

Who first thought of weaving stockings ?
A person named Lee, a native of Wood-
borough, near Nottingham.

Are woven stockings as good as knit
ones ?
No ; they are not nearly so strong.

Which are the principal places famous for the manufacturing of stockings.
Nottingham and Leicester in England, and Aberdeen in Scotland.

What were stockings made of in former times?
Of Cloth or milled Stuffs, sewn together as Cloth Gloves are made now.

What were they called in early history?
Hose, or Hosen.

Of what are neckerchiefs commonly made?
Of Silk.

What is silk?
The produce of the Silkworm.

What kind of animal is the silkworm?
A white Worm, a sort of Caterpillar.

How is the silk produced?
When the Silkworm is full grown, it spins a Ball of very fine Silk round its body, called a Cocoon.

What happens to the worm while it is in the cocoon ?

It turns into a Chrysalis, and then into a white Moth.

How is silk manufactured ?

When unwound from the Cocoons, it is spun into various sized Threads and then woven into different Fabrics.

What are the principal fabrics ?

Satins, Sarsnets, Velvets, Stockings, Handkerchiefs and Ribands.

Where is silk principally manufactured ?

In France, England, Italy, India and China.

CHAPTER XXII.

HOUSES—ARCHITECTURE.

OF what parts does a house consist?
Walls, Roofs, Floors, Chimneys, Windows and Doors.

What are the walls made of?
Bricks or Stones, and Mortar.

Of what are bricks made?
Of Clay, made into form by a Mould,
dried in the Sun, and afterwards
baked or burnt in a Kiln.

What is mortar made from?
From Lime, Sand, Hair and Water.

Where is limestone found?
In the Earth in large Rocks, combined
with a Gas, called Carbonic Acid
Gas.

What is it called in this state ?

Limestone. It is the common Stone used in Building and Paving.

How is the lime obtained for making mortar ?

It is burnt in a Kiln, by which the Carbonic Acid Gas is driven off.

When mixed with water and sand, as in mortar, what makes it become hard ?

It re-imbibes Carbonic Acid Gas from the Atmosphere, and becomes hard, like the original Limestone.

Of what is the roof of the house made ?

Of a frame-work of Wood, covered with Tiles or Slates.

How are tiles made ?

In-the same manner as Bricks, of Clay, burnt in a Kiln.

From whence are slates obtained ?

Out of the Earth.

What are the places called from whence
slates are dug?

Slate Quarries.

What are the places called from which
stone is dug?

Stone Quarries.

Where are the principal slate quarries?
In North Wales, particularly on the
sides of Snowdon.

Where are the principal stone quarries?
Near Bath, in the Isle of Portland, in
Nottinghamshire, and several of the
Midland Counties.

Of what are the doors of a house made?
Of Deal, and sometimes of Mahogany.

What is the use of the chimney?
To let out the Smoke, which would
otherwise come into the Rooms.

Of what are the windows made?
Of Glass in wooden Frames.

Of what is glass composed ?

It is formed of Sand or Flint, and Soda,
melted together in large Earthenware
Pots.

When was glass first used for windows ?

In the third Century of the Christian
Era.

Was glass known to the ancients ?

Yes ; but it was then very costly. The
Emperor Nero is said to have paid
£50,000 for two Glass Cups.

What are the qualities of glass ?

It is solid, hard, transparent, and brittle.

CHAPTER XXIII.

THE DIVISIONS OF A HOUSE.

WHAT are the principal divisions of a house ?

A House is divided into Rooms, Chambers, Passages, Stairs, Kitchens, Cellars and Vaults.

What are the rooms for ?

To sit in, or to take our Meals in.

What is the room in which we dine called ?

The Dining Room.

What is the room called in which we receive company ?

The Drawing Room.

In what rooms do we sleep ?

In the Bed Chambers.

What are the uppermost rooms called ?
The Attics or Garrets.

In what place is the food cooked ?
In the Kitchen.

In what place is it kept ?
In the Larder.

What is the use of the passages ?
They lead from one Room to another.

What is the use of the stairs ?
To take us from the lower to the upper
Rooms.

What are drains for ?
To take away dirty Water from various
parts of the House.

Where are they situated ?
Underneath the House.

To what do they lead ?
To the Cesspool, or a common Sewer.

What is a sewer ?
A large Drain, generally formed under

the Street, which takes the waste Water and Filth to some large outlet, such as a River or the Sea.

What can you tell me of the drains of London?

There are said to be ten thousand Drains in London, all communicating with common Sewers, which empty themselves into the Thames.

What is the effect of good drainage?
It renders a City healthy.

What is the effects of bad drainage?
Vapours and foul Air, which produce Fevers and a variety of Diseases.

CHAPTER XXIV.

WASHING AND BATHING.

WHAT is the consequence of a neglect of personal cleanliness?

The Skin, if allowed to be dirty, is liable to various Diseases.

What prevents these diseases?

The frequent use of Soap and Water, applied not only to the Face and Hands, but to every part of the Body.

When ought the whole body to be washed? If possible, every morning; a Sponge or damp Towel should be used over the whole Body, which should afterwards be rubbed dry.

What is the best manner of cleaning the teeth?

The Teeth should be cleaned with Camphorated Chalk, and brushed till they are perfectly white.

Is bathing a healthy practice?

Yes, in the Summer Season, if proper care be taken respecting it.

When is the best time to bathe?

Early in the Morning, or an hour or two before Dinner.

When is bathing improper?

When the Body is exhausted by Fatigue, or the Stomach full, as after Dinner.

Should you go into the water when warm?

We may go into the Water when moderately warm, but not in a state of Perspiration.

How long ought you to stop in the water?

Only a few Minutes; from five to seven

Minutes is quite long enough, unless a person is used to Swimming, when he may remain rather longer.

Should every one learn to swim?

Yes ; but no Child should venture into the Water, except under the care of a grown Person.

What should you do when you leave the water after bathing?

Take gentle Exercise, such as Walking, to promote the Circulation of the Blood.

What sort of place is suitable for bathing?
Care should be taken to avoid Holes, or Currents, sunken Rocks, a muddy bottom, or masses of Sea-Weed.

CHAPTER XXV.

ARTICLES OF THE CHEMIST AND DRUGGIST— DRUGS.

WHAT is rhubarb?

The Root of a Plant found wild in many parts of Asia, and which is cultivated in Turkey.

What is opium?

The Juice of the White Poppy.

From whence is it imported?

From Turkey.

What are its properties?

When taken in small Doses, it produces Sleep and relieves Pain.

How is it chiefly consumed by the Asiatics?

The Turks and Chinese both chew it and smoke it.

What is laudanum ?

Opium dissolved in Spirits of Wine.

What is the drug called aloes ?

The dried Juice of the Aloe, a Plant which grows in the Island of Socotra, near the entrance of the Red Sea.

What is Peruvian bark ?

The Bark of the Cinchona, a Tree which is a native of Peru and other parts of South America.

What is its use ?

It is a powerful Medicine in strengthening the System.

What is sarsaparilla ?

The Root of a Plant growing in South America.

What is colchium ?

The Root and Leaves of the Meadow Saffron, or Autumnal Crocus.

From what is castor-oil prepared ?

From the Seeds of a broad-leaved Plant, of a bluish-green colour, which grows in South America, the West Indies, and other warm climates.

What is digitalis ?

The dried Leaves of the Foxglove, which grows wild in our Hedges, bearing a beautiful bell-shaped purple Flower.

What is manna ?

A sweetish Gum, found on several kinds of Trees growing in South America and in the East.

What is quassia ?

The Root and Bark of a South American Tree, named after the discoverer of its virtues, who was a Negro named Quassia.

What is senna ?

The Leaves of a Plant which grows wild in Africa and Western Asia.

From what is the balsam of Tolu prepared?
It is the Gum or resinous Juice of a lofty Tree, which grows in the north part of South America, near the Isthmus of Panama.

What is asafœtida ?

The Gum of a Plant somewhat resembling the Cauliflower, which grows in Persia.

What is myrrh ?

The Gum of an Arabian Tree.

What is gum guaicum ?

The Juice of a large Tree, called the Lignum Vitæ, growing in the West Indies and South America.

What is gum Arabic ?

The Juice of the Plant called Acacia



Vera, or Egyptian Thorn, which grows in Ethiopia.

What is dragon's blood?

The Juice of the Rotang Plant, resembling the Sugar Cane, which grows in the East Indies.

What are oak or nut-galls?

Excrescences found on the Oak, being the product of an Insect which deposits its eggs within them.

What are galls used for?

In making common Ink.

How is ink made?

By soaking Nut-galls in Water, and adding to it Sulphate of Iron, commonly called green Copperas.

CHAPTER XXVI.

CHEMICALS.

WHAT is sulphur?

Sulphur is found in the Earth, in the neighbourhood of Volcanoes, in Italy, Sicily and elsewhere.

What is oil of vitriol?

Its proper name is Sulphuric Acid, and it is made by burning Sulphur in Chambers filled with Oxygen Gas.

What is blue vitriol?

Sulphate of Copper produced by the union of Copper with Sulphuric Acid.

For what is it used?

Principally in dyeing.

What is white vitriol?

Sulphate of Zinc, being a combination of Zinc with Sulphuric Acid.

What is nitre or saltpetre?

Nitrate of Potass, being Potash in union with Nitric Acid.

What is the principal use of nitre?

In the manufacture of Gunpowder.

What is gunpowder?

A mixture in certain proportions of Nitre, Sulphur and Charcoal.

What is formed from nitre?

Nitric Acid or Aquafortis, which dissolves all Metals except Gold.

What is phosphorus?

A Substance procured from Bones, which shows a bright light in the dark while at a very low temperature.

What is potash?

An Alkali produced by burning Sea Weeds.

What is soda?

A similar substance, sometimes found in the Earth, mixed with other substances, and sometimes produced from burning a different kind of Sea-Weed from that which produces Potash.

For what purposes are soda and potash used?

In the manufacture of Glass and Soap, in Washing, and several other processes.

Is it used in agriculture?

Yes; the Nitrate of Soda (that is, Nitric Acid combined with Soda) is very useful as a Manure for various Soils.

What is carbon?

The same as Charcoal, in a pure state. It enters into the composition of nearly all Animal, Mineral and Vegetable Substances.

In what do we find it in its purest state ?
In the Diamond.

What is verdigris ?
It is chemically an Oxide of Copper, or
Copper united with Oxygen.

What is its effect on the system ?
It is a deadly Poison.

For what is verdigris employed ?
In the preparation of Green Paint; it
also produces a Black Dye in union
with Logwood, and a Green Enamel
for Glass and Porcelain.

What is sugar of lead ?
Acetate of Lead, or Lead combined with
Acetic Acid or Vinegar.

What is red lead ?
An Oxide of Lead.

What is litharge ?
Another Oxide of Lead, used in glazing
Earthenware, and in annealing Glass.

What is meant by the term annealing ?
The gradually cooling of a Substance,
which prevents it from Cracking in a
sudden change from Heat to Cold.

CHAPTER XXVII.

FUEL.

WHAT are the principal substances used
for fuel ?
Coals, Wood, Coke and Peat.

Where are coals found ?
In Mines in the Earth, in several parts
of the World.

Is our own country rich in coals ?
Yes ; the Mines in the North of England
alone extend over a space of Eight
Hundred Square Miles.

Where is the richest store of British coal?
In South Wales, where it extends over
a space of Twelve Hundred Square
Miles.

Are the coals of South Wales equal to
those of the northern counties?
No; not for common Household Pur-
poses.

In what other countries have coal been
found?
In several of the European States. In
Nova Scotia, Australia, Borneo, China
and Japan; and on the Western Slope
of the Alleghanies in the United
States there is a large Coal Field.

What is the composition of coal?
It is of Vegetable Origin, and appears
to consist of the Remains of vast
Forests deposited in past Ages at the
bottom of the Sea or immense Lakes,

and then subjected to Heat and Pressure.

Of what does coal consist chemically?
Chiefly of Carbon and Hydrogen, which are also the component parts of plants.

At what depths is coal found?
In many cases a Thousand Feet below the Surface; and one shaft near Sunderland has been carried to the enormous depth of One Thousand Eight Hundred Feet.

What is peat?
Peat is composed of Vegetable Matter, changed by Moisture, Pressure, and Mixture with Mineral Substances dissolved in Water.

What is its appearance?
It is a spongy Black Mass, easily cut with a spade into Square Pieces, which

when dried in the Sun makes a kind of Fuel which burns easily.

What is lignite, or Bovey Coal, as it is called in Devonshire?

It is a Vegetable Substance, consisting chiefly of the Trunks and Branches of Trees that have undergone the same changes as peat. It is found at Bovey Tracey in Devonshire and other places.

What is coke?

The Cinder of Coal which has been used in the manufacture of Gas.

For what is it principally used?

It is used in the Furnaces of Steam Engines in large quantities.

CHAPTER XXVIII.

NATURAL PHENOMENA.

WHAT are clouds?

Partially condensed Vapours which have risen from the Earth and Sea.

What process is this raising of these vapours called?

Evaporisation.

How does it take place?

The Particles of Water are drawn up by the Heat of the Sun into the Air.

What is it forms this vapour into clouds?

The Rarity and Coldness of the Air in the upper part of the Atmosphere, which causes the Particles to unite more closely to each other.

Have not clouds various names ?

Yes ; there is the Cumulus, the Stratus,
the Cirro-Stratus, Cirro-Cumulus
and Nimbus.

What kind of clouds are those called
Cumulus ?

Masses of accumulating Clouds.

What are those called Stratus ?

Straight flat Clouds.

What are clouds called Cirro-stratus ?

Curled or feathery Clouds.

What is the Nimbus ?

The heavy, dark Clouds which produce
Rain.

What is rain ?

The Vapour of the Clouds completely
condensed, so as to fall in Drops of
Water on the Earth.

What is hail ?

The same Drops frozen in their Descent.

What is snow?

The Vapour frozen before it has time
to form Drops.

How high are the clouds?

At all heights up to Five Miles.

What is a rainbow?

An Arch of various Colours, seen in the
dissolving Clouds when the Sun
shines on them.

What colours are seen in this bow?

Red, Blue, Yellow, Orange, Green,
Indigo and Violet.

What is dew?

The Vapour contained in the Air near
the Surface condensed by the Cold of
the Night, so as to stand in Drops
upon plants and other substances.

What are fogs?

Clouds which rest upon the earth.

What is thunder ?

The Noise made by Electricity passing through the Air from one Cloud to another, or from a Cloud to the Earth.

What is lightning ?

The Light produced by the same process.

What occasions wind ?

The Air on some particular Spot, being warmed by the Sun, rises into the higher Regions, and the cold Air below rushes into the space thus rendered void, and causes Wind.

What is the Ignis fatuus or Will-with-a-wisp ?

A Light seen in Marshy Places and near Stagnant Waters.

What occasions it ?

A kind of Gas which exhales from Putrifying Substances, which takes

light at the common temperature of the Air.

What is the Aurora borealis?

Electrical Streams of Light seen in the North, and very common in high northern latitudes.

Are they useful in those latitudes?

Yes; in the six months Winter within the Polar Circle they give Light for a large portion of the time during which it would otherwise be completely dark.



CHAPTER XXIX.

THE METALS.

WHAT are the names of the principal metals?

Gold, Silver, Platinum, Iron, Lead,

Copper, Tin, Zinc and Mercury, and several others.

What is platinum?

A White Metal resembling Silver in appearance, the heaviest of all.

Where is it found?

In the Sands of Rivers in South America and in Siberia, where it exists in small Grains.

What are its properties?

It is very Malleable and Ductile, has great Tenacity and is melted with great difficulty.

What is the meaning of the terms malleable, ductile and tenacity?

A Malleable Metal is one that can be beaten into Thin Leaves. Ductility means the property which enables it to be drawn into Thin Wires, and tenacity signifies that it holds together, so that the wires are very strong.

Where is gold found?

In Mines and in the Sands of Rivers,
where it is found in Small Grains.

How is it generally collected?

When it is mixed with Stones and other
Substances, it is smelted or separated
from the mixture by Fire. When
found as Dust in the Sands of Rivers,
it is obtained by sifting and washing
away the Sand and Earth.

In what countries is it most abundant?

In South America, in Africa, and in
Hungary and Russia.

Can gold be beaten to extreme thinness?

Yes; a single Grain of Gold can be
beaten into Fifty-six Leaves, each the
Two Hundred-Thousandth part of an
Inch in Thickness.

What is the article commonly called gold
wire?

Silver Wire Gilded.

What is silver ?

A White, Shining Metal, which admits of a very High Polish.

From whence is it obtained ?

A great quantity comes from the Mines of Potosi in South America.

For what are the mines of Potosi remarkable ?

The Mountain in which the Mines are situated is Six Leagues in Circumference, and nearly 15,000 feet high.

What is their produce ?

Since the year 1545 they have yielded Four Hundred Millions sterling.

What are the other principal silver mines ?

Those of Mexico, where there are at least Five Hundred places celebrated for Silver Mines ; those of Hungary, Russia and several other places.

What is iron?

The most Useful and the Hardest of all the Metals.

How is it obtained?

In the state of Ore in various Rocks from every part of the World.

How is it manufactured?

The Ore is smelted or burnt with Charcoal in large Furnaces, and the Metal runs down in a molten state into Moulds.

What is iron called in this state?

Pig Iron.

What is the next process which it undergoes?

It is next refined in smaller Furnaces, and that which is wanted for Wrought Iron is then forged.

How is it forged?

By means of Powerful Hammers and

Steam Machinery, which roll, beat and cut the Iron into Bars for the use of the Smith.

What is steel ?

Iron heated to an intense degree in Earthenware Pots with Charcoal.

What is made of steel ?

All cutting Instruments, Springs for Watches, and a great variety of articles.

Where is copper found ?

In various Mines in Sweden, England and elsewhere.

Are there many mines in England ?

Yes ; but those in the County of Cornwall are more productive than all the rest.

How is it manufactured ?

The Ore, being raised from the Mines, is first broken, washed, and then smelted.

What is brass ?

A mixture of 25 parts of Zinc and 100 of Copper.

What is tin ?

A Metal of a brilliant white colour, harder than Lead, but not so hard as Gold.

Where is it found ?

It is found in large quantities in Cornwall, in Granite, and sometimes in small Grains in the Beds of Rivers.

How is it separated from the substances with which it is mixed ?

By pounding, washing and fusing, in much the same manner as Copper.

Where is lead ore found ?

In Durham, Derbyshire, Devonshire, and several of the Counties of England, Wales, Scotland and Ireland.

How is the ore converted into the pure metal?

It is broken, washed and melted in a Furnace or Kiln, as Copper is.

What is pewter?

A mixture of Lead and Tin.

What is zinc?

A hard Metal, something resembling Tin.

Where is it found?

It is found in large quantities in the Mines of Goslar, in Saxony, in Cornwall, and some other parts of England.

What is mercury?

The Metal commonly called Quicksilver.

How is it found?

It is found native in a fluid state, and mixed with Sulphur, in an Ore called Cinnabar.

Where are the principal mines of mercury?

In Peru, in America, in Spain, and in China; but the most celebrated are those of Idria in Carniola.

What are the uses of mercury?

Combined with Chlorine, it forms Calomel, a useful Medicine; combined with Sulphur, it forms the rich red called Vermillion.

For what is the pure metal used?

For Thermometers, in which Instrument it is used to measure the heat of the Air; for Barometers, in which it shows the weight of the air and predicts the Changes likely to occur in the Weather; and for Silvering Looking-Glasses.

CHAPTER XXX.

ROCKS, STONES, CLAY, ETC.

OF what are mountains and hills generally composed?

Of various kinds of Rocks.

What are the principal rocks?

Granite, Slate, Limestone, Freestone, Basalt, and many others.

What is granite?

A very hard Rock, composed of the substances called Quartz, Feldspar, and Mica.

What are the uses to which granite is applied?

It is used for building Castles, Prisons,

Bridges, as well as for Roads and Pavements.

When a road is laid with pieces of stone or granite broken very small what is the process called ?

Macadamising.

Why is this term applied ?

Because a person named MacAdam invented this mode of making Roads.

Where is granite found ?

Large masses are found in Scotland, Cornwall, and elsewhere. It generally rises into very lofty Hills or Mountains.

What public buildings in London are composed of this stone ?

London Bridge and Waterloo Bridge.

Where is limestone found ?

It forms many ranges of Hills in England, especially in Derbyshire, Somersetshire and Yorkshire.

What does this rock frequently contain ?
Lead Ore, and often an abundance of
Fossil Sea Shells.

What beautiful substances are varieties of
limestone ?
Various Marbles, and Spars, and Alaba-
baster.

Where are slate rocks principally found ?
In Wales and Cumberland.

What are the uses of slate ?
Slate is used for the Roofs of Houses,
for Paving Slabs, for Monumental
Tablets, and for School Slates.

What is slate-pencil ?
The best is a soft description of Slate,
found native ; but some of it is a
Composition of Ground Slate-dust
and Gum.

Where is clay found ?
Clay is found in vast Beds in many
Counties of England.

To what uses is it applied ?

It is used very largely for making Bricks,
of which Houses are built,

What other uses has it ?

All kinds of Earthenware are made
from the finer kinds of Clay.

Where is the principal district in England
for the manufacture of pottery ?

In Staffordshire.

CHAPTER XXXI.

PRECIOUS STONES, JEWELS, ETC.

WHAT are the most valuable of the pre-
cious stones ?

The Diamond, the Emerald, the Ruby,
the Sapphire, the Amethyst, the
Pearl, the Opal, and the Garnet.

Where is the diamond found?

In the Mines of Golconda and Raolconda, in Hindostan, also in the Gravel of Rivers.

What is its appearance in its rough state?
That of a Dirty Brown Pebble.

For what is the diamond remarkable?
For its extreme Hardness and great Brilliancy.

How is the value of the diamond estimated?
By its Brilliancy and perfect Transparency.

What process does the diamond undergo
to bring it to perfection?
It is cut so as to have a number of
Sides or Facets, which refract the
Light in all its hues.

How is the diamond cut?
By means of a Wheel, upon which
Diamond Dust has been spread.

Who possesses the largest diamond ?
The Queen of Portugal has one which
is said to be the largest in the world.

What is the size of this diamond ?
About the shape, and nearly as large,
as half an Egg.

What is the use of the diamond ?
It is used for Cutting and Engraving
other Gems, for the Pivots of Watches,
and to cut Glass.

What is the ruby ?
A Brilliant Stone of a Bright Red
Colour, found in Ceylon.

What is the emerald ?
A beautiful Gem, of a Dark Green
Colour, found in the East Indies and
in South America.

Which is the largest emerald known ?
The Peruvians are said to have one as

large as a Pigeon's Egg, to which they used to pay divine honours.

What is the sapphire?

A beautiful Blue Gem found in the Sands of the Rivers of Ceylon and other parts of the East Indies.

What is the topaz?

A Gem of a Bright Yellow Colour, found principally in Brazil.

What is the amethyst?

A Stone of a Purple Colour, principally brought from India and Ceylon, but sometimes found in England.

What colour is the beryl?

Of a faint Sea-Green Colour. It is found in China, Brazil, and some other parts of Europe.

What kind of stone is the garnet?

Of a deep Crimson Colour. It is found in Bohemia and on the Alps.

What is the opal ?

A whitish opaque Stone, which refracts the Prismatic Colours.

Whence is it obtained ?

From the East Indies and various parts of Europe.

What kind of a stone is the turquoise ?

It is a Bright Blue Opaque Stone, found in Turkey and Persia, and especially in Russia.

Where are pearl-oysters found ?

Chiefly in the Indian Ocean.

Are pearls found in this country ?

Pearls have been found in fresh-water Muscles in Wales, from the earliest period, and are now found in the River Conway, and on the Shores of the Tay in Scotland.

What is mother-of-pearl ?

The inner part of the Shell of the Pearl and other Oysters.

What is coral?

A Substance produced by small Animals of the Polypus kind, at the Surface and Bottom of the Sea.

Are the beds of coral extensive?

Some of them extend Hundreds of Miles, and form inhabited Islands and Reefs, upon which Ships are often wrecked.

Are there many different kinds of coral?

Yes, and of almost every variety of Form; but that principally in use as an Ornament is the Red Coral.

For what is this used?

It is cut into Beads, Brooches, Earrings, and other articles of the kind.

Where is red coral principally found?

In the Red Sea, as well as in the Mediterranean, near Tunis, and Sardinia.

What is amber ?

It is supposed to be a Fossil Gum, once existing in a fluid state.

What are often found in it ?

The perfect forms of various kinds of Insects.

What are its properties ?

It easily takes Fire; it is also a great exciter of Electricity, from whence Electricity derives its name.

How does electricity take its name from amber ?

From the Greek word Electron, which signifies Amber.

What is ivory ?

The Tusk or Tooth of the Elephant.

Where is it found ?

In Africa, the East Indies, and the Island of Ceylon; that obtained from the latter place is the best.

To what use is it applied ?
For Carving, for Handles of Baskets,
Boxes, Knives, and for various small
Articles and Ornaments.

CHAPTER XXXII.

ASTRONOMY.

WHAT is meant by the word universe ?
The entire System of Things which
God has created.

Of what does the universe consist ?
Of the Heavens and Earth, and all
Things therein.

What do we see in the heavens ?
The Sun, Moon, Stars, Comets, Planets
and Meteors.

What do we observe on the earth?
Mountains, Hills, Rocks, Stones, Trees,
Herbs, Rivers, Seas, Springs, Lakes,
Plains, Animals and Plants.

What is the brightest object in the heavens?
The Sun.

What is the use of the sun?
It gives Light and Heat to all Things

What is the sun supposed to be?
An immense Globe surrounded by an
Atmosphere of Light.

What is its diameter?
Eight Hundred and Eighty-three
Thousand Two Hundred and Forty-
six Miles.

How far is the sun distant from us?
Ninety-five Millions of Miles.

What is the moon?
A much smaller Body than the Sun,

which shines by the Reflection of the Sun's Rays.

How far is the moon from the earth ?
Two Hundred and Forty Thousand Miles.

How large is she ?
The Moon is about 2000 Miles in Diameter.

What is meant by the word diameter ?
Breadth across.

What is meant by the word circumference ?
The Measure round a Body.

What is the diameter of the earth on which we live ?
About 8000 Miles.

What is its circumference ?
Upwards of 24,000 Miles.

Does the earth move ?
It turns round on its Axis once in twenty-four Hours.

What is its axis ?

An Imaginary Line drawn through the Poles of the Earth, upon which it is supposed to turn.

Has the earth any other motion ?

Yes ; it moves in its Orbit round the Sun once a year.

What is the earth's orbit ?

The Path of the Earth round the Sun.

What is its shape ?

It is nearly Circular, but not quite, being inclined towards an Elliptical or Oval Form.

Are there any other planets beside the earth ?

Yes ; Mercury, Venus, Mars, Jupiter, Saturn, Uranus and Neptune, besides the Asteroids.

What are the asteroids ?

Very small Planets, lying between the Orbits of Mars and Jupiter.

What are their names ?

Ceres, Pallas, Vesta, Juno, Astrea, Iris,
Flora and Hebe.

What planet is nearest to the sun ?

Mercury, of which the distance is
37,000,000 of Miles.

What is the distance of the next planet,
Venus ?

About 68,000,000 of Miles.

What is the distance of Mars from the
sun ?

One Hundred and Forty-five Millions
of Miles.

What is the distance of the asteroids ?

Their Orbits lie between 225 and 275
Millions of Miles.

What is the distance of Jupiter ?

About 500,000,000 of Miles.

What is the distance of Saturn ?

About 900,000,000 of Miles.

What is the distance of Uranus ?
About 1,822,000,000 of Miles.

What is the distance of Neptune ?
About 3,000,000,000 of Miles.

Which of the planets have moons or satellites ?
The Earth has one, Jupiter four, Saturn seven, and Uranus six.

What is there peculiar in Jupiter ?
Several dark Stripes or Belts upon the Globe of the Planet.

What is there peculiar in Saturn ?
It has a Broad Luminous Ring surrounding the Central Globe.

How is this ring divided ?
Into Two distinct Parts, separated by a Space of nearly 3000 Miles.

What is the breadth of the ring ?
More than 25,000 Miles.

What are comets?

A class of bright Moving Bodies generally seen with a Train of Light behind them.

What is the word comet derived from?

The Latin word Coma, hair.

What is their course in the heavens?

They have a Path round the Sun, which forms an Ellipse or Oval which is often very narrow.

Is the sun in the centre of this ellipse?

No; but towards one end of it.

How many comets are there supposed to be in our system?

It is supposed that there are at least a Thousand.

What are the fixed stars?

Bright Bodies of Light seen in the Sky.

How are they distinguished from the planets?

By their Twinkling, while the Planets

give a steady Light, and by their appearing to retain their position in the Heavens, while the Planets move amongst them in their path round the Sun.

What are they supposed to be ?
Suns to other Systems, having Planets moving round them like our own Sun.

What is the number of the fixed stars ?
About 1000 may be seen by the naked Eye at one time.

How many can be seen with telescopes ?
An almost infinite number, of which we can scarcely give an estimate.

CHAPTER XXXIII.

GEOGRAPHY.

How is the earth on which we live divided
by geographers ?

Into five Portions, Europe, Asia, Africa,
America and Oceania.

How is each of these portions divided ?
Into smaller Portions, called Countries,
Kingdoms or States ; or into Islands

How are kingdoms divided ?
Into Provinces.

What does a province contain ?
Cities, Towns and Villages.

What is an empire ?
Many Countries united under one Go-
vernment.

What is the most correct representation of the earth's surface ?

An Artificial Globe.

What is half of the globe called ?

A Hemisphere.

How are the hemispheres generally distinguished ?

Into Eastern and Western.

What does the eastern hemisphere comprise ?

Europe, Asia, Africa and Oceania.

What does the western hemisphere contain ?

North and South America, and the West Indies.

What is a map ?

A Representation of a portion of the Surface of the Earth as it would appear if seen from above.

What is a chart ?

A Representation of the Sea and the

Sea-coasts of a Country, with the
Rocks and Depth of Water marked
upon it.

What are called the four cardinal points of
the compass ?

North, South, East and West.

Which is the north part of a map ?

The Top.

Which the south ?

The Bottom.

Which the east ?

The Right-Hand Side.

Which the west ?

The Left-Hand Side.

What are the middle points between the
cardinal points called ?

North-East, South-East, North-West
and South-West.

How are they usually marked ?

By the Letters N.E., S.E., N.W., S.W.

How are the north and south hemispheres
of the globe divided ?

By the Equator.

What is the equator ?

An imaginary Line which divides the
Earth at an equal distance from the
North and South Poles.

What are the poles ?

The extreme North and South Points
of the Globe.

How many zones or climates are there ?

Five ; two Frigid, two Temperate, and
one Torrid Zone.

Where are the frigid zones ?

The North Frigid Zone is between the
North Pole and the Arctic Circle, and
the South Frigid Zone between the
South Pole and the Antarctic Circle.

Which are the temperate zones ?

Between the Arctic Circle and the Tro-
pics of Cancer and Capricorn.

Which is the torrid zone?

The part of the Earth lying between the Tropics of Cancer and Capricorn.

What are the tropics?

Two Circles on each side of the Equator.

What are the characters of the frigid zones?

Extreme Cold, Snow, Ice, with Scanty Vegetation.

What are the characters of the temperate zones?

Temperate Warmth, with Rain falling at all Seasons of the Year, and abundant Vegetation, mainly dependent on Cultivation.

What are the characters of the torrid zone?

Extreme Heat, Rain only at certain Seasons of the Year, Storms, Drought, Rich Vegetation and the Fiercest and most Dangerous Animals.

What kind of inhabitants are those of the torrid zone?

They are chiefly Dark-coloured, and in some parts quite Black

What kind of inhabitants are there in the temperate zones?

They are eminent for the Beauty of their Persons, their Mental Endowments and Civilisation.

What is the character of the inhabitants of the frigid zones?

The inhabitants are Dark-coloured and Dwarfish, with little Intelligence.

What is an ocean?

A large body of Water surrounding a Continent.

What is a sea?

A smaller body of Water washing the Shores of a State or Kingdom.

What is a lake?

A small body of Water surrounded by Land.

What is a gulf or bay?

A part of the Ocean running into the Land.

What is a harbour?

A small sheltered Bay, where Ships may anchor.

What is a shore or coast?

That part of the Land which lies next to the Sea.

What is a strait?

The narrow Passage of Water from one Sea to another.

What is a channel?

A Broader or Wider Passage.

What is a sound?

A Channel or Strait that may be Sounded or Measured in depth with a Line.

What is an island ?

A piece of Land surrounded by Water.

What is a cape ?

A Point of Land projecting into the Sea.

What is a promontory ?

A high Mountainous Cape.

What is a peninsula ?

A Portion of Land which runs into the Sea and is joined to a Continent by a narrow Strip of Land.

What is an isthmus ?

The Strip of Land which joins a Peninsula to a Continent.

What is a desert ?

An immense tract of Land, chiefly of Sand, in which but little Vegetation or Water is found.

What is a mountain ?

A very high Hill.

What is the height of the highest mountains?

The highest are those of the Himalaya range in Asia, some of which are upwards of 26,000 Feet above the Level of the Sea.

What is a volcano?

A Mountain which emits Melted Stone called Lava, and Smoke.

What is a river?

A Stream of Water which rises in Mountains or high Land and runs into the Sea.

What is a waterfal or cataract?

The Waters of a River falling over Rocks.

Which is the greatest cataract in the world?

That of Niagara in North America, which is above One Hundred and

Fifty Feet high, and Three-quarters
of a Mile across.

CHAPTER XXXIV.

THE RACES OF MANKIND.

How many inhabitants is the world supposed to contain?

About Eight Hundred Millions.

Are these all sprung from the same common parents?

Yes; from Adam and Eve, although they now differ from each other so as to be distinguished into different races.

What are the principal races of man?
The Caucasian, or White Race; the

Mongolian, or Yellow Race; the Ethiopian, or Black Race; the American, or Red Race; and the Malay, or Brown Race.

What nations are included in the Caucasian variety?

All the Europeans except the Laplanders. The Inhabitants of Western Asia. The Turks, Georgians, Circassians, Persians and Hindoos of High Caste.

For what are these nations remarkable?

For superiority of Intellect.

- What nations are included in the yellow race?

The Mongols, the Calmucks, the Chinese and the Japanese, together with the Laplanders and the Esquimaux.

What nations are comprehended in the Ethiopian variety?

Nearly all the Inhabitants of Africa.

Where does the red race exist ?

In America, where it is divided into many Tribes, of which the Cherokees, Osages, Sioux, Ojibeways and Foxes are most celebrated.

Where is the Malay or brown race to be found ?

They comprise the Inhabitants of Malacca, Sumatra, Java and most of the adjacent Asiatic Isles and of New Holland, New Guinea, New Zealand, and the South-Sea Islands.

What are the characteristics of the Caucasian race ?

A large, well-formed Head, Fair Skin and Oval Face.

What is the character of the Mongolian race ?

A Broad and Flattened Face, straight Black Hair, large Round Lips, Eyes

placed Obliquely, and a Yellowish Skin.

What is the character of the Ethiopian variety?

A Black Skin, Woolly Hair, Broad Nose, Thick Lips and projecting Jaw.

What is the character of the American race?

A Low Forehead, Broad Face, Sunken Eyes, High Cheek-Bones and Large Mouth.

When was this race discovered?

About Three Hundred and Fifty Years ago, and it is now gradually becoming extinct.

What is the character of the Malay variety?

A very Brown Skin, Narrow Head, Bones of the Face Large, Hair Black and abundant, Mouth Large and Lips rather Thick.

How is the variety of races to be accounted for ?

By the Variety of Climate and Mode of Life, which produce the most wonderful changes in the course of even a few years.

What is the study of the races of mankind called ?

Ethnology.

CHAPTER XXXV.

TIME, SEASONS, DAYS, ETC.

WHAT is the length of the solar year ?

Three Hundred and Sixty-five Days,
Five Hours, Forty-eight Minutes and
Forty-eight Seconds.

How many months are there in a solar year?

Twelve.

What are their names?

January, February, March, April, May,
June, July, August, September, Oc-
tober, November, December.

How can you easily recollect the number
of days in each month?

By remembering the following lines:—

Thirty Days hath September,
April, June and November;
February hath Twenty-eight alone,
And all the rest have Thirty-one;
Except in Leap Year,—then's the time
February's Days are Twenty-nine.

From what is the name January derived?
From Janus, a Roman Divinity, the
God of Gates and Entrances, because
January stands, as it were, at the Gate
of the Year.

From what is February derived?

From the old Roman God Februus,
whose festival was celebrated in this
Month.

From whence does the name of March
come?

From Mars, the God of War.

From what word is April derived?

From the Latin word *Aperio*, to open
or set forth, as Nature seems to ex-
pand, and the buds open in this
month above all others.

What is the derivation of May?

From the Goddess Maia, the brightest
of the Pleiades, said to have been the
Daughter of Atlas.

Whence comes the name of June?

From Juno, the Goddess of Heaven and
Wife of Jupiter.

From whom was July named ?

From Julius Cæsar, who was born in this Month.

After whom was August named ?

From Augustus, the Roman Emperor.

What is the meaning of the word September ?

It is derived from *Septem*, Seven, and *Imber*, Rain, because it is generally a Wet Month, and was the Seventh Month of the Roman Year.

What is the derivation of October ?

From *Octo*, Eight, and *Imber*.

From whence comes the name November ?

From *Novem*, Nine, and *Imber*.

Why is December so called ?

From *Decem*, Ten, and *Imber*, Rain, being the Tenth Month of the Roman Year.

How many days in the week are there ?
Seven.

What are their names ?
Sunday, Monday, Tuesday, Wednesday,
Thursday, Friday, Saturday.

What is the derivation of the word Sunday ?
From the Sun, to whom the Day was
dedicated by the Saxons.

What of Monday ?
The Day of the Moon, or Monan-daeg,
by the Saxons.

Give the derivation of Tuesday ?
From the Saxon Tuisco-daeg, dedicated
to Tuisco, a Saxon God.

Whence is derived Wednesday ?
From Woden's-daeg, the Day of the
Scandinavian God Woden or Odin.

From what is Thursday derived ?
From Thor's-daeg, the Day of Thor, the
eldest Son of Woden.

From whence is the term Friday ?
From Friga's-daeg, the Day which was
sacred to Friga, or Frea.

What does Saturday mean ?
The Day of Seater, to whom the Saxons
prayed for Freedom and Concord.

How is the day divided ?
Into Twenty-four equal Parts, called
Hours.

How else is it divided ?
Into Night, Morning, Noon, Afternoon
and Evening.

What are the meanings of the letters A. M.
and P. M. ?
A. M. signifies Ante Meridiem, or before
the middle of the day ; P. M. sig-
nifies Post Meridiem, after midday.

At what time does the sun pass the meridian?

When it reaches the Highest Point in its daily course, which is exactly at Twelve o'Clock.

How many years have passed since the birth of Christ?

One Thousand Eight Hundred and Forty-nine.

How many years before Christ was the world created?

Four Thousand and Four Years.

How many years have passed from the creation of the world to the present time?

Five Thousand Eight Hundred and Fifty-three.

What are the principal dates to be remembered?

The Creation of the World, 4004;

The Deluge, 2348;

The Exodus, or going out of the Children of Israel from Egypt, 1491 ;

The Dedication of Solomon's Temple, 1004 ;

The Babylonish Captivity, 606 ;

The Birth of our Blessed Lord and Saviour Jesus Christ.



CHAPTER XXXVI.

MONEY.

WHAT is money ?

Anything that represents the value of things, whether Gold, Silver, Copper, Leather or Paper.

How is commerce carried on among savage nations ?

By Barter.

What is barter ?

The Exchange of one Article for another,
as if I give a Jacket for a Pair of
Boots.

What is the advantage of money ?

It can be conveniently carried about,
and it has a fixed value, so that it
forms a Standard with which other
things can be compared.

Of what has money been made at various
periods ?

Of Gold, Silver, Copper and Iron, as
well as of Shells, Paper and Leather.

Who used iron money ?

The ancient Spartans.

Who used leather money ?

The Dutch, in old times.

What nations use paper money ?

Nearly all civilised Nations use it when
large Sums are to be paid.

What is considered the universal standard?
Gold.

Why is this metal chosen in particular?
From its great value, which makes it portable, so that a Sovereign is not larger than a Shilling, though it is twenty times as valuable.

Who first established a uniform coinage in England?
King Athelstan.

By whom was gold coin introduced in England?
By Edward III. in Six-Shilling Pieces.

What are the copper coins at present in use, and what value do they bear in proportion to each other?
The Farthing;
The Halfpenny, worth two Farthings;
The Penny, worth four Farthings.

What is a mite ?

A very small Copper Coin, no longer in use.

What are the silver coins ?

The Fourpence ;

The Sixpence ;

The Shilling, worth two Sixpences ;

The Half-Crown, worth two Shillings and Sixpence ;

The Crown, worth five Shillings.

What silver coins were formerly in use besides these ?

Pennies, Twopennies and Threepennies.

What gold coins are in use ?

The Half-Sovereign, worth ten Shillings ;

The Sovereign, worth twenty Shillings.

What were in use in former times ?

The Guinea, worth twenty-one Shillings ;

The Half-Guinea ;

The Seven-Shilling Piece ;
And, in still more ancient times, the
Mark and the Noble.

What is the meaning of the word sterling ?
Lawful Money, as settled by the au-
thority of the State.

What is the weight of a sovereign ?
Five Pennyweights, three Grains and a
quarter, and a small fraction more.

What is the weight of a crown, or five-
shilling piece ?
Eighteen Pennyweights, four Grains,
and about a third of a Grain.

What is the weight of a shilling ?
Three Pennyweights, fifteen Grains,
and rather more than a quarter.

What is meant by a bank ?
A place where persons may place
Money for security, and where they
can change one kind of Money for
another.

From what is the word derived?

From the Italian Banco, which means a Bench or Seat, upon which the Money Lenders used to sit in the Market places, and within which they put their Money.

Which is the largest bank in the world?

The Bank of England.

Is much money lodged at the bank?

There are generally several Millions of Gold contained in its vaults.

What is bullion?

Uncoined Gold or Silver in Bars or Ingots, as they are called.

What is interest?

The allowance made for the Loan or use of a sum of Money, which is generally at so much per cent., that is, so much on a Hundred Pounds. One per Cent. means one Pound on

a Hundred, Five per Cent. five pounds on a Hundred, and so on.

What is an annuity ?

A certain Sum paid annually to a person for his or her Life.

What is a life assurance office ?

A place at which, by paying a certain Sum down, a person receives an engagement from the Office to pay him an Annuity for Life, or to pay a certain Sum to those who may inherit his property at Death.

What is a fire insurance office ?

A place at which a person, by paying a certain Sum every year, if his House or Property should be burned, secures the repayment of his Loss.

What is coining ?

The Process of making Coin by stamp-

ing pieces of Metal of a certain size and weight.

Where is this process carried on ?

At a place called the Mint, in London.

How is it performed ?

The Metal is first beaten into flat Plates, then cut into thin Strips, then into square or round pieces, and afterwards placed under a Stamp, called a Die, which gives the required Impression.

What is meant by the words funds or stocks ?

The Funds or Stocks are sums of Money lent by individuals to Government at a certain rate of Interest per cent.

CHAPTER XXXVII.

COMMERCE.

WHAT is commerce ?

The Intercourse of Nations for carrying
on Trade.

What is trade ?

Buying and selling.

What is the principle upon which commerce is founded ?

That different countries produce various commodities, which it is beneficial for them to exchange.

What is meant by free trade ?

Liberty for all Nations and all Persons to Trade where they like.

In what way is this liberty often restricted ?
By the Government requiring a sum of Money, called a Duty, to be paid on Goods coming into or going out of the country.

What is the effect of duties ?

To raise the Price of Articles that are cheap and make them dear.

Is the charging of duties likely to be done away ?

It is ; and England is setting the example of Free Trade to the whole world.

What are exports ?

Those Articles which are sent out from a country to some Foreign Port.

What are imports ?

Those Articles which are imported or brought into a country from Foreign parts.

What are the exports of England in annual value?

From Eighty to Ninety Millions sterling

What are her imports?

From Sixty to Seventy Millions.

By whom is the commerce of Europe carried on?

By persons called Merchants.

How is merchandise carried from one place to another?

In Europe principally by means of Ships and Railways.

What is the number of English vessels employed in the foreign trade?

About Thirty-Eight Thousand.

How is commerce carried on in central Asia and Africa?

Principally by means of Caravans.

What is the meaning of the word Caravan ?
It means a body of Merchants with
their goods on Camels, which gene-
rally amount to several hundreds.

What city is the great emporium of
Asiatic and African commerce ?
Cairo.

Where is the greatest fair in the world
held ?
At Niznee Novogorod, in Russia, which
unites European and Asiatic Com-
merce, and is attended by half a
million of people.

What is the principal emporium of Ara-
bian trade ?
The City of Djedda, which supplies all
the surrounding countries with In-
dian and other produce.

Which is the greatest trading city in the
world ?
London.

Which are the great trading sea-ports of
England?

London, Liverpool, Bristol, Hull and
Newcastle-upon-Tyne.

CHAPTER XXXVIII.

AGRICULTURE.

WHAT is agriculture?

The art of cultivating the Earth.

What is the use of agriculture?

Without it mankind would be Savages,
and exist only on the Chase, and on
Wild Fruits and Roots.

What are the principal agricultural operations?

Draining, Manuring, Harrowing, Roll-

ing, Sowing, Mowing, Reaping and Threshing.

Does it comprehend anything else ?

Yes ; the Rearing and Feeding of Cattle.

How is draining performed ?

Trenches are dug in the Earth in a slanting direction, so as to draw off the wet from the land into a Ditch.

How is ploughing performed ?

By a Machine called a Plough, which turns up the Earth in high ridges.

To what depth does the plough reach in turning up the soil ?

From Ten to Eighteen Inches.

What is the next operation ?

The process of Harrowing.

How is this performed ?

By a Machine called a Harrow.

Describe this instrument.

It is a cross-barred wooden Frame,
studded with stout Iron Spikes, which
pierce the ground, and rake away
the rubbish.

What is the next operation ?

That of Rolling.

How is this performed ?

By a Machine called a Roller, which
breaks the Clods and levels the Land.

What is next done ?

After Ploughing again, the operation of
sowing the Seed is performed.

Are there not many ways of sowing seed ?

Yes ; the modes of sowing Wheat are
Broadcast, Drilling and Dibbling.

What is broad-cast sowing ?

Throwing it on the Land by the Hand.

How is drilling performed ?

By a Drilling Machine, which makes a

number of little Furrows, as it is driven over the Land, and, at the same time, drops in the Seed.

What is dibbling ?

Making Holes in the Soil, by means of a sharp-pointed Iron, called a Dibbler, and dropping a few Grains into each Hole.

What is the next operation ?

Weeding, which is performed after the Seed is sprung up.

How is this performed ?

By Women and Boys, who with Hoes root up the Weeds from among the Corn.

Why is this necessary ?

That the Plants may not be choked, or the Nutriment of the Earth drawn away from them.

When the corn has grown up, and is ripe,
what is then done?

It is cut down by the Reaper with his
Sickle, who cuts it in armfuls, and
binds it into a bundle, called a
Sheaf.

What is next done ?

Several Sheaves are placed together,
side by side, and they form what is
called a Shock, which stands till the
Wheat is carried.

What is meant by being carried ?

Taken up in a Waggon and carried to
the Farm-yard, where it is formed
into a large Stack, or taken at once
to the Barn to be threshed.

What is the next operation ?

Threshing.

How is this performed ?

By means of a Flail, which is a Stick

having another loose Stick fastened to its end by a Thong, and with this the Thresher beats the Corn, and the Grain is driven out of the Ear.

Are not machines used for threshing ?

Yes; and by them Corn can be threshed more cheaply, and with less loss than by Hand.

What is winnowing ?

Its object is to separate the Grain from the Husk, or Chaff, and it is now usually performed by a Machine, called a Winnowing Machine.

How does this act ?

The Grain and Chaff are forced in at one end, and, a handle being turned, the Chaff is blown away by means of revolving Wings, leaving the Wheat at the bottom of the Machine.

What next operation does corn undergo?
That of Grinding into Flour.

How is this performed ?

Either by a Windmill or a Watermill,
in which the Grain passes between
Millstones, which are kept turning
round.

What is done with the meal ?

It is sifted, by means of Machinery,
and separated into three different
qualities.

What are the names of these ?

Bran, Middlings and fine Flour.

What is bran ?

The coarse part of the Husk in the
Corn.

What is middlings ?

The finer parts of the Husk, with a
small proportion of Flour.

What is fine flour?

The Dust of the inside of the Grain of Wheat, which is perfectly white.

What is required besides flour to make bread?

Salt, Yeast and Water.

What is yeast?

The fermented portion of Beer, which has been before described.*

How is yeast used in the making of bread?

A portion of Yeast is mixed with warm Water, to which a little Salt is added, and this is mixed with the Flour, till it becomes a soft compact Mass, called Dough.

What is done with the dough?

It is laid in a warm place till it begins to swell, or rise, as it is termed, when

* See page 41.

it is mixed with more Flour, well kneaded, formed into Loaves, and put into the Oven.

CHAPTER XXXIX.

PAPER—SOAP—CANDLES—STARCH.

Of what is paper made ?
Of Cotton and Linen Rags.

How are the rags first treated ?
They are first washed, then cut into small pieces by Machinery, and reduced to a thin Pulp.

What is done with the pulp ?
It is placed in a large Vat or Tub.

What is the chief instrument used in making a sheet of paper ?
A Square Frame, with a fine wire

bottom resembling a sieve, of the size of the intended sheet, called a Mould.

How does the workman employ this ?

He dips the Mould into the Pulp and holds it in a horizontal position ; the Water then runs between the Wires, leaving a coating of the Pulp on the Mould.

What is the next process ?

The Sheet of Pulp or Paper is turned out of the Mould upon a prepared Blanket to dry.

What is afterwards done with the sheets ?

They are first pressed and then sized, by dipping them into a Solution of Glue.

What is the use of sizing them ?

To render them Firm, and to prevent the Ink from running when the paper is written on.

When the paper is thus finished, what is done with it?

It is again pressed, made up into Quires and Reams, and sent to the Stationers, for sale.

How many sheets does a quire of paper contain?

Twenty-four.

How many quires does a ream contain?

Twenty.

What is soap manufactured from?

Tallow, or Oil, and Soda, or Potash, with Lime.

What oils are generally used?

Olive and Palm Oil.

When the materials are properly mixed, what is then done?

A gentle Fire is kept under the Copper till the Oil and the Alkali unite into a soft thick mass, which is after-

wards formed into long square pieces by a Mould.

How are tallow candles manufactured ?
Tallow is melted in large Coppers, with a small portion of Lime, and the mixture is poured into Moulds for Mould Candles.

How are dipped candles, or dips, as they are commonly called, made ?
By dipping the Rush, or Skein of Cotton that forms the Wick, several times into the melted Tallow, till a Coating is formed round it of the thickness required.

How is starch manufactured ?
From wheaten Flour.

What is the process ?
Pure Wheat is fermented in a Tub of Water by the heat of the Sun, and is then put into canvas Bags, and

the portion of the Wheat called the Farina is pressed out into Water.

What is then done ?

The Farina, which is the pure Starch, falls to the bottom of the Water ; the Water is drawn off and the Starch is left behind ; this is formed into Cakes, which crystallise upon drying, and the Starch is then ready for use.

CHAPTER XL.

POTTERY—GLASS.

FROM what is pottery manufactured ?
From Clay, ground very fine.

How are the articles formed ?
They are either modelled by the Hand
or on a Potter's Wheel.

What is the finest kind of clay ware called?

Porcelain or China.

From whence is the name porcelain derived?

From the Portuguese word Porcelana, a Cup.

Where are the most celebrated English porcelain manufactories?

In Staffordshire and Worcestershire.

What is the most beautiful of the French china called?

Sèvres China, from the place near Paris, where it is made.

Which is the most famous of the German china?

That of Dresden, which is very beautiful.

What is glass manufactured from?

From a mixture of Sand or Flint with Soda or Potash.

By whom was the art of making glass discovered?

By some Merchants, who were shipwrecked on the Syrian coast.

How did they make the discovery?

Having a freight of Soda, they placed some lumps of it to support their Kettles, while they set them to boil on the sandy sea-shore. The heat of the Fire melted the Soda, which united with the Sand, and the result was a kind of Glass.

How is glass now manufactured?

The materials are first mixed and put into Pots, which are placed in a Furnace till the matter is melted. The substance thus produced is called the *Foil*.

What is the next process ?

The Foil is put into other Pots, placed in fierce Furnaces, and melted down and skimmed ; the Fire is then gradually lowered and Glass is the result.

What other process does glass undergo ?

It is blown into various Shapes, and moulded into different Utensils.

Of what is plate-glass made ?

Of Sand, Soda, Nitre and Quicksilver, melted in enormous Crucibles.

How is it made into form ?

Instead of being blown and then flattened, like common Glass, it is poured from the Crucibles in a molten state upon a flat Metallic Table, and smoothed with an Iron Roller.

How are the various colours given to glass ?

By various Metallic Oxides ; for Blue

Glass, Cobalt is used ; for Green, Copper ; for Violet, Manganese ; for Red, Copper and Iron ; for Purple, Gold.

Are not gems imitated in glass ?
Yes ; all Gems, and Cameos also, have been closely imitated in Glass.

CHAPTER XLI.

PINS—NEEDLES—PENCILS.

How are pins made ?

The Heads are made out of Brass Wire, coated with Tin, and the Shanks are cut from Wire of the proper length, the points ground, and, lastly, the Heads put on by very curious Machinery.

Where are the principal manufactories of pins?

In Gloucester, where in one manufactory twenty thousand pins can be made in an hour; and in Birmingham.

How are needles manufactured?

Out of Steel Wire, which is cut into Lengths, and the Points are ground and the Eyes drilled by Machinery.

How are blacklead pencils manufactured?

The wooden part is prepared in long half-cylindrical Slips by means of a Machine; a Groove is made in it by the same means; small pieces of Plumbago or Blacklead cut also by Machinery are inserted into the Groove by hand, and the two portions of the Pencil are then glued together.

Whence is the best plumbago or blacklead obtained?

From a Mine at Borrowdale, in Cumberland; and a large manufactory is carried on at Keswick.

CHAPTER XLII.

PRINTING.

Who invented the art of printing?

The Chinese seem to have possessed the art in a rude form from very remote ages.

Who is supposed to have invented the art in Europe?

Laurentinus of Haarlem, who made the first wooden moveable Types of single Letters.

Who took up the invention?

John Fust, who obtained the idea from one of the servants of Laurentinus, and improved upon it by using metal types.

When was the first book printed with metal types?

In the year 1443.

Who was the first printer in England?

William Caxton, a Merchant, who acquired the art abroad, and set up a Printing Press at Westminster.

What is copper-plate printing?

Taking the Impression of an engraved Copper-Plate upon Paper.

How is this performed?

The Plate is rubbed all over with Ink, which enters into the engraved parts, and there remains, while the other Ink is wiped from the smooth Surface

of the Plate by the Hand. The Paper is then laid over it and pressed down by means of a Rolling Press, when the Ink in the engraved part is transferred to the Paper.

What is lithography?

Printing from Stone on which a Drawing has been made, and the parts where the Stone is bare eaten away by an Acid, so as to leave the Drawing in *relief*, or raised above the Surface.

What is the difference between copper-plate printing and lithography?

In Lithography the Impression is taken from the parts which stand up above the surface of the Stone, as in printing with types; but in Copper-Plate Printing, the Impression comes from the engraved parts, which are sunk below the surface of the Copper.

CHAPTER XLIII.

SHIPPING.

WHEN did the navy of England first become famous?

In the reign of Alfred the Great.

Who established the dockyard at Woolwich?

Henry VIII.

What is the present naval force of England?

One Hundred and Twenty Ships of the Line, One Hundred and Thirty Frigates, Three Hundred small Vessels, and Fifty War Steamers.

What is a ship of the line?

A Vessel carrying from 74 to 120 Guns.

How are ships classed?
Into First, Second, Third and Fourth
Rates.

What is a first-rate ship?
The same as a Ship. of the Line; that
is, one that carries Seventy-four or
more Guns.

What number of men does a first-rate
ship carry?
From 700 to 1000 Men.

How many loads of timber does a first-
rate ship require?
From 3 to 4,000 Loads.

What quantity of land and what time is
required to grow this amount of timber?
About fifty acres of land, and about
a hundred years.

What is a frigate?
A Ship lightly built, so as to sail fast,
carrying from 20 to 50 guns.

What is a sloop?

A Vessel with One Mast with a Square Topsail.

What is a brig?

A Square-rigged Vessel with Two Masts.

What do you mean by a square-rigged vessel?

One of which the Sails are placed across the Ship, and not in the direction of her Length.

What is a schooner?

A Two-masted Vessel, of which the Masts generally lean backwards, with Sails like a Sloop and a Boom to each Mast.

What is a brigantine?

A small, flat, open Vessel, having both Sails and Oars, used either for Fighting or giving Chase.

What is a galley?

A low-built Vessel, having Oars and Sails, chiefly used in the Mediterranean Sea.

What is a hulk?

An Old Ship, laid up, and used either as a Prison, an Hospital, or a Storehouse.

What is a canoe?

A small Boat, used by savage Nations, and generally formed from the Trunk of a Tree.

What is a fire-ship?

A Vessel filled with Shells, Bombs, and combustible Materials, which being sent into an Enemy's Fleet, explode at a given time and cause great mischief.

What is a transport?

A Ship used to convey Troops or Cri-

minals from one part of the World to another.

What is a yacht?

A Vessel used for pleasure Excursions.

• What is a smack or cutter?

A small Vessel with One Mast, employed as a Tender on Men-of-War or used in Fishing.

What is a junk?

A Chinese Vessel, used either for War or for carrying Merchandise.

What is a squadron of ships?

A division of a Fleet commanded by a Commodore.

CHAPTER XLIV.

MILITARY AND NAVAL DEFINITIONS.

Who is the first officer in an army?

The Commander-in-chief or General
issimo.

What is his duty?

To give general Orders to the whole
Military Force of the Kingdom.

From whom does he receive his com-
mands?

From the Sovereign only.

What is a field-marshal?

A person appointed, for his Skill and
long Experience, to marshal an Army
in the Field.

To whom is this dignity given ?

It ought to be given to none but Officers
of high Merit and Valour.

What is an aid-de-camp ?

A Military Officer appointed to attend
on a General, to convey Orders from
one part of an Army to another.

What is a general ?

An Officer who commands a Division
of an Army.

What is a colonel ?

The Commander of a Regiment.

What is a major-general ?

An Officer who regulates the Discipline
of an Army.

What is a major of a regiment ?

An Officer who regulates the Discipline
of a Regiment.

What is a brigadier ?

An Officer who commands a Brigade.

What is a brigade?

A Division of a Regiment.

What is a captain?

An Officer who commands a Troop of Horse or a Company of Foot Soldiers.

What is an adjutant?

An Officer who sees to the execution of the Orders of the Major.

What is a quarter-master?

The Officer who provides Soldiers with quarters (or lodgings), clothing and ammunition.

What is a lieutenant?

An Officer next in rank to a Captain.

What is an ensign?

A young Officer of the lowest rank, who has the care of the Colours.

Which are called non-commissioned officers?

Sergeants and Corporals.

How many men does a sergeant command?

From twelve to eighteen.

How many men does a corporal command?

From three to nine Privates.

What is a militia?

A body of Soldiers raised from the People by Ballot, to keep Peace at Home, or to repel Foreign Invasion, should it be needful.

What is a commissary?

One who supplies Provisions to an Army.

What is an admiral?

The Officer who has the command of a Navy.

Who is the admiral who holds the highest rank called?

The Lord High-Admiral.

What other admirals are there?

The Vice-Admiral, who commands the Second Division of a Fleet, and the Rear-Admiral, who commands the Third.

What is a captain in the navy?

The Commander of a Ship in time of Battle.

What is a commander?

An Officer next in rank to a Captain, who either commands a small Ship, or else attends to the Discipline, under the Captain, in a large Ship.

What are naval lieutenants?

Officers next in rank to the Comman-

der, who take charge of the Ship in turn, and see to the carrying out of the Captain's Orders.

What is a midshipman?

A young Officer, appointed to assist the Lieutenant.

What is a mate in a man-of-war?

A young Officer between a Midshipman and a Lieutenant.

What is a mate in a merchant vessel?

The Officer who comes next to the Master.

What is a commander of a merchant-vessel called?

A Master, and sometimes, but improperly a Captain.

What is a master, in the navy?

The Officer who superintends the Sailing of the Ship, according to the Captain's Orders.

What is a boatswain ?

A Non-commissioned Officer, who sees to the execution of Orders concerning the Discipline of a Ship.

What is a purser ?

The Officer who receives and distributes the Clothes and Victuals on board a Ship.

What is a pilot ?

The Seaman who conducts a Ship into a Harbour or through a rocky or dangerous Passage.

What is a marine ?

A Soldier trained to the use of fire-arms on Ship-board.

CHAPTER XLV.

GOVERNMENT AND LAW.

UNDER what two heads are the laws of England classed?

The Written Law and the Unwritten Law.

What is meant by the unwritten law?

The Customs of the Kingdom or the Courts, which are sanctioned by constant practice.

What do the written laws comprise?

Acts of Parliament or Statutes made by the Sovereign, the House of Lords, and the House of Commons.

How are the laws of England divided, according to their objects?

1. The Rights of Persons, or the Legal Claims of Individuals;

2. The Rights of Things, or the Rules respecting Property ;
3. The Redress of Public Wrongs ;
4. The Redress of Private Wrongs.

Which are the principal courts of law?

The Court of Chancery ;
The Court of Queen's Bench ;
The Court of Common Pleas ;
And the Court of Exchequer.

What is the court of Chancery?

That sometimes called the Court of Equity, where the Lord Chancellor acts as sole Judge, or, in his absence, one of the Vice-Chancellors.

What is the court of Queen's Bench?

The Court in which the Lord Chief Justice presides with three other Judges.

What is the court of Common Pleas?

The Court which takes notice of Civil Actions between subject and subject.

What is the court of Exchequer?

A Court originally established for the Management of the Revenues of the Crown.

What is the presiding judge of the court styled?

The Lord Chief Baron of the Exchequer.

What is a sheriff?

The Officer who puts the Law into Execution.

How many sheriffs are there in England?

One for every County.

What is a justice of the peace?

A Magistrate appointed by the Crown to keep Order in a Town or Village.

What is a coroner?

An Officer who is empowered to summon a Jury to inquire concerning the Death of any Person who has died suddenly or by accident, or concerning found Treasure.

What is a mayor?

The Chief Magistrate of a Corporate Town, usually elected by the Burgesses or Aldermen.

What is an alderman?

The Word is from the Saxon, signifying Elder Man, an old or wise Man, who has filled the Office of Mayor.

CHAPTER XLVI.

CRIMES AND MISDEMEANOURS.

MENTION some of the principal crimes, of which the law takes notice ?

High Treason, Felony, Burglary, Murder, Manslaughter, Perjury, Theft, Arson, Libel, Slander.

What is high treason ?

Doing anything that may affect the Life of the King, Queen, or Heir to the Throne.

What is the punishment for this crime ?

Death by Hanging, and afterwards Beheading.

What is petty treason ?

When a Child kills its Parent, a Wife her Husband, or a Servant his Master.

What is the punishment?

Death by Hanging.

What is felony?

Felony is a general term, including Murders, Robberies, Forgery, Coining, and many other Offences.

How is felony punished?

Either by Death, Banishment, or Imprisonment for a number of years.

What is burglary?

Breaking into a Man's House at Night, with intent to Rob it.

What is the punishment?

Generally Transportation beyond the Seas for Life.

What is arson?

Setting Fire to a House, for the purpose of destroying it.

What is the penalty?

In very atrocious cases, Death is awarded, but generally Transportation for Life.

What is manslaughter?

The Killing of a Person when Murder was not intended.

What is the punishment?

Imprisonment for a Term, according to the nature of the Offence.

What is perjury?

Taking a False Oath in a Court of Justice.

How is it punished?

By Imprisonment or Transportation.

What is a libel?

Inflicting an Injury on another by Defaming his Character.

Is saying what is true of another a justification from the charge of libel?

No; for it is considered wrong for a person to expose the Faults of another, so as to do him an Injury.

What is the punishment?

Fine and Imprisonment.

Have not great alterations been made in the penal code, of late years?

Yes; Sir Robert Peel has made Offences more definite, and rendered Executions less frequent.

Is not the system of imprisonment also much altered?

Yes; by the substitution of a Discipline more or less rigorous, according to the nature of the Crime.

What are the objects of this measure?

The Prevention of Crime and the Reformation of the Offenders.

Can these results be calculated upon?
No; because Punishment never did and
never can reform Mankind.

What then is the great preventative of
crime?
The early Training and Education of
the Young.

CHAPTER XLVII.

FINE ARTS.

WHAT studies are usually comprehended
under the name of the fine arts?
Sculpture, Painting, and Architecture.

What is sculpture?
The Art of cutting the Representation
of any Object out of Stone, Marble,
or some other Substance.

Is sculpture of great antiquity ?

Yes ; the first intimation of the Art is in the Book of Genesis, where Rachel is described as carrying away the Teraphim, or Household Gods of her Father.

Which nation seems most to have practised sculpture, in very early times ?

The Egyptians.

From what substance did they chiefly form their sculptures ?

From immense blocks of Basalt or Granite.

What objects did they chiefly sculpture ?

Their Gods and sacred Animals.

Were not some of these very large ?

Yes ; on a Plain near Thebes are the remains of two enormous Stone Statues, upwards of 110 feet high.

Of whom were they supposed to be statues?

It is not certainly known, but one is supposed to be the Statue of Memnon.

Where is the head of this statue now to be seen?

In the British Museum.

What fabulous animal were the Egyptians in the habit of representing in their sculptures?

The Sphynx; a figure consisting of the Head of a Woman on the Body of a Lion.

What are the dimensions of the largest statue of the sphynx existing?

It is 125 feet long, and the elevation of its head above the sand is 85 feet.

What peoples were the most famous for their sculpture, somewhat later than the Egyptians?

The Greeks and Romans.

What are the most famous of the Grecian and Roman statues?

The Apollo Belvedere, the Venus de Medicis, the Laocöon, and the Group of Niobe and her Daughters, all of which are now in Rome.

From what do the first two of these statues derive their distinctive names?

The Apollo Belvedere is so called, because it stands in a part of the Vatican Palace, called the Belvedere; the Venus de Medicis belonged originally to the Medici Family at Florence.

Who are the greatest modern sculptors?

Michael Angelo Buonarotti, who lived

in the Sixteenth Century; and Flaxman, Canova, Baily, Westmacott, and Gibson, of still more modern date.

What is the method of proceeding in forming a statue?

A Drawing is first formed of the Object, and then a Model in Clay or Wax.

What is next done?

A piece of Marble larger than the Figure is taken, and rudely shaped into a distant Resemblance of the Figure.

What follows?

The Artist, having studied his Model, draws upon it horizontal and perpendicular Lines, crossing each other; he then copies these Lines upon his Marble, from which he works, till all the superfluous Marble is taken

away, and the Statue appears a strict copy of the Model.

Is anything else done?

After being delicately finished, it is polished.

What is meant by the word *bust*?

The Sculpture of a person's Head and Shoulders.

What does *alto rilievo* mean?

The high Projection of Figures from a plain Surface.

What does the term *basso rilievo* signify?

The slight or low Projection of Figures from a plain Surface.

CHAPTER XLVIII.

PAINTING.

WHAT is painting?

The Representation of Objects by means of Colours on a plain Surface.

What sort of colours are generally used in painting pictures?

Oil Colours or Water-Colours.

By what two names are the two kinds of paintings commonly distinguished?

Those painted in Oil are called Paintings, those in Water-Colours, Drawings, or Water-Colour Drawings.

What are the component parts of painting?
Invention, Composition, Design, Perspective, Expression, Chiaro-scuro, and Colouring.

What is invention ?

The original Conception of the Subject,
and general Features of the Picture.

What is understood by composition ?

The proper Arrangement of the various
Objects introduced into the Paintings.

What is meant by design ?

The Beauty and Truthfulness of the
Sketching of the Figures.

What is perspective ?

The Representation of the Distance of
Objects and their relative Position.

What is meant by expression ?

The proper Representation of the Fi-
gures and Objects in a Picture, in
accordance with the Action or Sub-
ject depicted.

What is the chiaro-scuro ?

The contrast and combination of Light
and Shade.

What is colouring?

The Arrangement of Colours, so as to produce a suitable and pleasing Effect, without distracting the Eye.

By whom was painting practised, in very early times?

By the Egyptians, who painted almost without attention to Perspective.

Who were the principal Greek painters?
Apelles and Zeuxis.

What country, during later periods, became famous for painters?
Italy.

Who was the first that obtained great reputation as a painter?
John Van Eyck (who lived in the Fourteenth Century), a Native of Holland.

Who were afterwards the great painters in Italy ?

Raffaelle, Michael Angelo, Titian, Giorgione, Leonardo da Vinci.

What schools did these found ?

Michael Angelo founded the School of Florence, Raffaelle that of Rome, Leonardo that of Milan, and Titian and Giorgione that of Lombardy.

What other painters were most celebrated besides the Italian masters ?

Albert Durer in Germany, Hans Holbein in Switzerland or Germany, Vandyck and Rubens in Flanders.

Which are the greatest English painters ?

Sir Godfrey Kneller, Sir Peter Lely, Sir Joshua Reynolds, West, Fuseli, Wilson, Sir Thomas Lawrence, Gainsborough, Morland, Hogarth, and Wilkie

Which are the greatest English historical painters?

Reynolds, West, Fuseli, Copley, and Barry.

Which are the principal landscape-painters?

Gainsborough, Wilson, Morland; and Turner, Collins, and Danby, who are now living.

Which are the principal portrait-painters?

Kneller, Lely, Reynolds, Sir Thomas Lawrence, Ramsey, Northcote, Opie; and Richmond and Laurence, now alive.

Who are the greatest painters of everyday life and manners?

Hogarth and Wilkie.

Which are the famous living painters of animals?

Edwin Landseer and Cooper.

How is painting on glass and enamel painting performed?

By peculiar sorts of Colours being burnt or melted into the Glass or China, by exposure to intense Heat.

What is mosaic work?

The Representation of Objects, by means of uniting together small Pieces of Glass, Marble, or precious Stones of various Colours, in such a manner as to resemble Painting.

To what purposes are marble mosaics applied?

The Pavements of Churches and Chapels, and the Walls of Edifices.

For what are the mosaics of precious stones employed?

For Altar-Pieces and Tables, for Cabinets, Brooches, Rings, and other Ornaments.

What is fresco painting?

Painting on fresh Plaster upon Walls,
before it is dry.

What is the advantage of this kind of
painting?

The Colours become incorporated with
the Plaster, and endure for ages.

What is miniature painting?

A very delicate sort of Painting, for
small-sized Portraits and Figures.

What is the advantage of oil painting?

It is preferable to all other Methods, as
it admits of a perfect Gradation of
Tints in the most durable Materials.

Upon what surface are oil colours usually
laid?

Canvas, Steel, Copper, Wood or Paste-
board.

How is painting or drawing with water-colours performed?

With Colours mixed with Water, laid upon Paper, Card, Silk or other materials.

CHAPTER XLIX.

INVENTIONS AND DISCOVERIES.

Who invented the mariner's compass?

Flavio Gioja (of Amalfi, a city near Salerno) is generally said to have done so.

When did Gioja live?

At the commencement of the Fourteenth Century.

What is the magnetic needle ?

A slender Piece of Steel, balanced on a Pivot, so that it turns round easily, and, being magnetized, one end turns to the North and the other to the South.

Who first attached the card to the needle ?

The English.

Who divided the card into thirty-two points ?

The Dutch.

What is boxing the compass ?

Repeating the names of the thirty-two Points backwards and forwards.

Which are called the four cardinal points ?

North, South, East, and West.

What is the use of the mariner's compass ?

By it Sailors always know which Way they are going, even in the darkest Night.

What gives the needle the power of pointing northwards?

The Magnet.

What is the magnet?

The Natural Magnet is a sort of Iron Ore, but the Artificial Magnet is only a Piece of Steel that has been rubbed by a Natural Magnet.

What is the other property of the magnet besides its pointing northward?

It attracts Iron, and causes any Piece of Steel it may touch to do the same.

Does the magnetic needle point exactly to the north and south?

No; in this part of the world the true North is about twenty degrees to the East of the part to which the Magnet turns.

Who invented the figures which are commonly used in arithmetic?

The Arabians or Saracens.

What are the figures that are commonly used to distinguish the chapters of the Bible?

Roman Figures, being those that were used by the ancient Romans.

By whom were bells introduced into England?

Bells of a large size were introduced by Paulinus, in the Fourth Century.

Were bells known before this time?

Yes; we read of them in Exodus, chap. thirty-nine, verse twenty-five, and may see them on very ancient Egyptian Monuments.

Which is the largest bell in the world?

That of Moscow, which weighs 443,772 pounds.

When was this bell cast, and by whom?

In the year 1653, in the Reign of the Empress Anne.

Which is the largest bell in England?
That called "Great Tom," of Christ
Church, Oxford, which weighs 17,000
pounds.

Who invented the telescope?
The Children of Cornelius Jansen (a
Spectacle-maker at Middleburg, in
Zealand), in the year 1590.

What led to this invention?
The Children were playing with some
Lenses, and by accident placed two
in such a position, that the Church-
steeple appeared much nearer, when
they looked through them.

Who made the greatest improvements in
the telescope?
Galileo, Astronomer to the Grand Duke
of Tuscany, in the Seventeenth Cen-
tury, and Dollond, an English Opti-
cian.

Which is the most powerful telescope in the world?

That lately constructed under the direction of Lord Rosse.

What other instrument was invented by Jansen?

The Microscope.

What is the use of the telescope?

To enable us to discern with clearness minute Objects.

What wonders has the telescope performed?

It has enabled the Astronomer to discover new Planets and many Stars beyond the reach of our common Vision.

What is the use of the microscope?

It enables us to discern very Minute Objects, and to bring to our notice

Animals and Plants, which the naked Eye could never see.

What is the best kind of microscope in which you look at the object itself called?

The Compound Microscope.

What is the solar microscope?

An Instrument which throws magnified Shadows of Objects upon a Wall, by means of the Sun's Rays.

What is the oxy-hydrogen microscope?

A similar Instrument, with which an intense Light, from a mixture of Oxygen and Hydrogen Gas, burned upon a piece of Lime, is used instead of the Sun's Rays.

Who invented spectacles?

The invention is generally attributed to Roger Bacon, an English monk of the Franciscan order.

When did he live?

He was born at Ilchester, 1214, and died at Oxford, 1294.

Who invented the air-pump?

Otto Guericke, a citizen of Magdeburg, in 1654.

Who were its great improvers?

Boyle, Hook and others.

What is the use of the air-pump?

It enables us to make Experiments upon the Weight, Density, and elastic Power of Air.

Who invented the thermometer?

Hero of Alexandria is said to have invented a kind of Instrument for measuring the Heat of the Atmosphere, B.C. 130.

Who made the first instrument similar to those now in use?

Fahrenheit, a Dutchman, in 1720.

What is the use of the thermometer?

It enables us to measure different degrees of Heat, hence its name, from *Thermé*, heat, and *Metron*, a measure.

Who invented the barometer?

Torricelli, a Disciple of Galileo, discovered its principle; and Pascal, a French Divine, applied it to useful purposes in 1648.

What is the use of the barometer?

To measure the Weight of the Atmosphere.

By whom were sun-dials invented?

It is supposed by Anaximander, of Miletus, 550 years before Christ.

Which was the first kind of clocks?

The Clepsydra, or Water-Clock, which was used among the Egyptians and Greeks.

How did this measure time?

By the running of Water through a very small Opening.

Who were the inventors of the modern kind of clock?

The Invention is supposed to have been derived from the Saracens, and brought into Europe by the Crusaders.

When were watches invented?

They were common in France in 1544, but when first invented is unknown. They were then made chiefly at Nuremberg, from whence they were called Nuremberg Eggs.

Who invented globes?

Anaximander invented the Terrestrial Globe, and Hipparchus the Celestial.

Who invented maps?

Herodotus informs us that the first re-

gular Map was engraved on Brass, about 500 years before Christ.

By whom were maps first introduced into England?

By Bartholomew, the brother of Christopher Columbus, who, in 1489, produced a Map of the World.

Who invented the quadrant?

Nicolas Copernicus, in 1510.

Who invented aqueducts?

Appius Claudius, B.C. 311, and the first built was called after his Name.

What are aqueducts?

Artificial Channels, to convey Water over Valleys.

When were mills invented?

According to Pausanias, Mill-stones were first used by Myles, son of Lelex, King of Sparta.

When were windmills introduced in
in England?

During the Crusades.

When were ships first built?

The first on record is the Ark of Noah ;
and, at the Siege of Troy, B.C. 1184,
above a thousand Ships are said to
have carried the Greeks over to Asia
Minor.

Who is said to have invented letters?

Cadmus, King of Thebes, who formed
an Alphabet of sixteen Letters.

By whom were bricks first made?

The earliest account of Bricks is in the
building of the Tower of Babel,
B.C. 2218.

By whom was the present mode of making
them invented?

By Sir Nicholas Cresse, during the
reign of Charles I.

Who invented gunpowder ?

The Chinese appear to have been first acquainted with it; but they never made much Use of it.

Who appears to have first discovered it in Europe ?

Roger Bacon, in 1216; but he did not publish the Invention, which was first made known by Swartz, a monk of Cologne, in 1320.

By whom were guns invented?

By the Inhabitants of Lucca, in Italy, who used them against the Florentines, in 1430.

When were cannon invented ?

About the middle of the thirteenth century.

By whom were they first used in battle?
By the Moors, in 1343, against the
Spaniards.

What English king first employed them?
Edward III., who made use of them in
the battle of Cressy.

Who invented iron cannon-balls?
John Maugue, of Tours, in 1478.

Of what had they been previously made?
Of Stone.

When were bows and arrows first in-
vented?
They are mentioned in the Scriptures
as known so early as B.C. 1898.

By whom were they brought to this
country?
By the Anglo-Saxons and Danes.

Who introduced the cross-bow?
The Normans.

Who invented the bayonet?

The people of Bayonne, in France, from which place it takes its name.

Where was it first used?

In the Netherlands, in 1647.

Who invented drums?

Drums were brought into Spain by the Arabians.

Who invented the pump?

Ctesibius, a Mathematician of Alexandria, who flourished B.C. 135.

Who invented the harp?

Jubal, the son of Lamech, who is mentioned in Genesis iv. 21.

Who was the inventor of compasses?

Talus, the nephew of Dædalus, an Athenian.

Where were many of them discovered?
In the ruins of Pompeii and Herculaneum.

What is the origin of canals?
The first was made, according to Herodotus, by Necho, King of Egypt, about 616 B.C.; or, according to Strabo, by Sesostris, before the Trojan wars.

Who invented the diving-bell?
The principle of the invention is of very ancient date, and can be traced to the Time of Alexander the Great.

When was the first diving-bell used in Europe?
In the time of the Emperor Charles V., at Cadiz.

Who contrived the sort of diving-bell at present used?
Dr. Halley, the Astronomer, born 1656.

What was the origin of the steam-engine?

The power of Steam was observed by Hero the Elder, of Sicily, who flourished B.C. 250.

But who discovered this power to be applicable to useful purposes?

The Marquis of Worcester, while in confinement in the Tower of London.

From what did his discovery of the power of steam arise?

From the blowing-up of his Cooking Apparatus, by the power of Steam, which induced him to try its effects as a Moving Power.

Who constructed the first steam-engine on the principle now in use?

James Watt, a Scotchman, who lived in the latter part of the last century and the beginning of this.

Who first applied steam for propelling ships?

Robert Fulton, an American, and Bell, a Scotchman, simultaneously; and each without the knowledge of what the other was doing.

By whom was the first regular steam-packet made in Great Britain?

By Mr. Bell, of Glasgow, in 1811, and named the "Comet," in consequence of a Comet being at that time visible.

Where were steam-engines on railroads first brought into use?

On the Stockton and Darlington Line, and then on the Manchester and Liverpool Line, opened in 1824.

Who invented balloons?

The first notion of them is due to Fran-

cis Lance, a Jesuit; but Mongolfier, in 1782, was the first to ascend in one.

Was Mongolfier's balloon on the same principle as those now in use?

No; it was a Fire-Balloon, which ascended through the rarefaction of common Air, while the modern Balloons are filled with Gas, which is lighter than the Atmosphere.

Who was the first person that ascended in England?

Mr. Lunardi, who ascended from the Artillery Ground, Moorfields, September 15, 1784.

Who invented the safety lamp for mines?
Sir Humphry Davy, in 1815.

Who invented the magic-lantern?
Roger Bacon.

Who invented the kaleidoscope?
Dr. Brewster, in 1814.

Who invented short-hand?
Ennius, a Roman Poet, invented a mode
of Writing, by which he was able to
transcribe the Speech of the most
rapid Speaker.

Who invented the Doric order of archi-
tecture?
The Dorians, one of the great tribes of
the ancient Greeks.

Who invented the Ionic order?
The Ionians, another tribe of Greeks.

Who invented the Corinthian order?
Callimachus, of Corinth.

What suggested this beautiful order?
The Acanthus Plant, which, growing
under a Basket covered with a Tile or
Slab, gave the idea of its beautiful
Volutes and Curls.

Who invented the Tuscan order?
The Etruscans.

By whom was the composite order brought
to perfection?

By the Romans.

Who was the originator of dramatic re-
presentations?

Thespis, a Greek Poet, who flourished
about 500 years before Christ.

What was the name of the first tragedy
then performed?

Alcestis, in which the Poet introduced
only one Actor.

What kind of plays were afterwards ex-
hibited?

Those in which several actors were
engaged.

Who was *Æschylus*?
A Greek Tragic Writer.

Was not his death remarkable ?

Yes, he is said to have been killed by a Tortoise, which a large Eagle let fall on his Head, taking it for a stone, B.C. 455.

Who was Sophocles ?

A Tragic Poet, of Athens, who died 406 years before Christ, aged 90.

Who was the third great tragic poet of Athens ?

Euripides, who first introduced a change of Scenery on the Stage.

Who was the chief comic poet of Athens ?

Aristophanes, one of whose Plays is said to have been the occasion of provoking the Athenians to put to death the great Philosopher Socrates.

CHAPTER L.

CUSTOMS AND CEREMONIES, ETC.

WHY are cocks placed on steeples, to show the direction of the wind?

From that Bird being the Emblem of Watchfulness.

Why do Welchmen wear a leak in their hats, on the first of March?

To Commemorate St. David's Day, and a Victory gained on that day by Cadwallo, over the Saxons, 640.

What had that victory to do with leaks?

The Welchmen wore Leaks in their Hats, to distinguish them from their Enemies.

Why do Irishmen wear shamrock in their hats on the seventeenth of March ?

In Honour of St. Patrick, their Patron Saint.

Who was St. Patrick ?

He was a Scotchman by birth, and went to the Irish, who were Heathens, and established Christianity among them, about the year A.D., 450.

What use did he make of the shamrock ?

Observing that his new Converts could not readily comprehend the Doctrine of the Trinity, he illustrated it by the Shamrock, which is a Trefoil, or three leaves united in one.

When did the formal mourning for the dead first become a custom ?

From the very earliest years. Abraham is represented as Mourning for Sarah,

in Genesis, and the Children of Israel mourned thirty days for Moses.

Of what is the ring used in marriage a symbol?

Of Eternity, and of perfect Union.

Why is it worn on the fourth finger?

From its being anciently supposed that this Finger had an Artery that went directly to the Heart.

Whence originated the custom of "beating the bounds" of parishes?

It is supposed to be the relic of the Roman Feast Terminalia, which was observed in honour of the God Terminus, who presided over Bounds and Limits.

Who instituted the inquisition?

Pope Innocent III., in the year 1200.

What is the inquisition ?

A Court kept up in some Roman-Catholic Countries, for the Trial and Punishment of Heretics.

What was the origin of alms-houses ?

They were originally attached to Monasteries, for the support of pious Laymen.

Which is one of the most noble alms-houses in England ?

That founded by Thomas Sekforde, Master of the Rolls, in the Reign of Queen Elizabeth.

Where is it situated ?

At Woodbridge, in Suffolk. It is one of the handsomest Buildings in the Kingdom.

Who instituted the order of knights called Knights of the Garter ?

Edward III., in the year 1315.

What is the origin of this order ?

It is not precisely known, but some suppose that it was a Restoration, by King Edward, of the Knights of the Round Table, instituted by King Arthur.

When was the order of the bath instituted ?

It appears to have been originally instituted by Richard II., and was revived by George I., in 1725.

When was the order of the knights templar instituted ?

In the beginning of the Twelfth Century, in honour of the Temple at Jerusalem.

In what did the templars differ from other knights ?

They were Monks as well as Knights.

When was the office of sheriff instituted ?

It is a Saxon Office, and was well

known in the time of Alfred the Great. The word means Steward of the Shire or County.

When was the first great seal of England made?

In the year 1042, in the Reign of Edward the Confessor.

When was the office of lord mayor first instituted?

The first *Mayor* was made at the Coronation of Richard I. The dignity of *Lord Mayor* was not assumed till the Reign of Edward III.

What is the meaning of the term alderman?

It means Elderman or Elder, and was first applied to a Civic Officer, as at present, in the year 882.

Who first conferred the title of duke in England?

Edward III., who created his son Duke of Cornwall, in 1337.

Who first conferred the title of marquis?
Richard II., in 1385, on Richard Devere, Earl of Oxford.

By whom was the title of earl first conferred?

By Ethelred, on his son Alfred, in 867.

Who first conferred the title of viscount?
Henry VI., on John, Lord Beaumont, in 1448.

Where is mention first made of fishing nets?
In the Book of Job, xviii., 8.

Who invented the telegraph?
The first arrangement, a Series of Signals, is said to have been made by

Polybius, an Architect of Corinth,
who flourished B.C. 540.

What is the kind of telegraph now in use?
The Electric or Galvanic Telegraph,
invented in 1845.

What is the superiority of this telegraph
over the old ones?
Its Rapidity.

What is its rate of progress?
Information may be communicated to
any Distance almost instantaneously.

Where is the electric telegraph princi-
pally used?
On the various Lines of Railway.

Who discovered galvanism?
Dr. Lewis Galvani, of Bologna, in 1791.

When were pianofortes invented?
In 1711, at Florence.

By whom were they first introduced into England?

By Father Wood, an English Monk, who saw them at Rome.

When were coaches invented?

Stow says that "one Walter Rippon built the first Coach, for the Earl of Rutland, in 1555, and another for Queen Elizabeth, 1564."

Who discovered America?

Christopher Columbus, in 1495.

Who discovered the circulation of the blood?

Dr. William Harvey, Physician to James I.

When were coals first used?

They were used first in the North of England, in the middle of the Thirteenth Century.

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How long was it before the use of coal became universal in London?

Not till the Reign of Charles I.

- Who were the first who made a trade of lending money?

The Citizens of Nuremburg, in 1498, who obtained a Charter for that purpose from Maximilian I., and the People of Lombardy.

By what name were lending houses first established in England, France, and Holland?

By the name of Lombards, hence our Lombard-street.

Who discovered the hydrometer?

Archimedes, who was killed 212 years before Christ.

What is the hydrometer?

An Instrument for comparing the

Weight of Water with the Weight of other Substances.

Who first invented the lighting of streets?
The Streets of various Cities appear to have been lighted in the First Century after Christ, especially those of Antioch and Edessa.

What modern city first followed the example of the ancients in this particular?
The City of Paris, which was regularly lighted about the year 1558.

Who invented gas for street-lighting?
The first public building lighted with Gas was the Lyceum Theatre, in 1804, and the Streets were lighted by it in 1813, by Mr. Windsor.

Who invented the game of chess?
The invention of Chess is ascribed to a Babylonian Philosopher named

Xerxes, in the Reign of Evil Mero-
dach.

By whom was the game brought into
Europe?

By the Crusaders.

Where did playing-cards originate?

It is thought that they are of Eastern
Origin, but some state they originated
in Spain.

When were they first known in England?
In the Reign of Henry VII.; but they
were not manufactured in England
till the Reign of James I.

Who invented the game of billiards?
The French, about the year 1598.

What is the origin of the game of back-
gammon?

It is supposed to take its name from the
Saxon *bac-zæmen* back game; but

some state it originated with the Welch, before the Conquest.

What profane author first speaks of the sceptre?

Homer, who speaks of Golden Sceptres.

What Roman Emperor first wore a regal crown?

The Emperor Aurelian, about the year A.D. 270.

What was the origin of diadems?

Athenæus, the Greek Writer, says the Nobles at Banquets first made use of a Band round the Head, which was supposed to preserve them from becoming intoxicated, and that the Fillet became afterwards a Sign of Authority.

Who in England wore the first imperial or double crown?

Edward IV.

What sort of crown does the Pope wear?
A Triple One, in a Conical Form.

Who first established newspapers?
The Venetians, in 1536.

How were they at first circulated?
In Manuscript, in consequence of their
not being allowed to be printed.

When were chimneys first erected in Eng-
land?
During the Fourteenth Century.

Who first authorised the use of tablets for
monumental inscriptions?
Gregory the Great.

What was the object of them, in the first
instance?
That the Relations of the Deceased
might offer up Prayers for their Souls
on the Spot where they were buried.

Who first established churchyards in England ?

Cuthbert, Archbishop of Canterbury, in 750.

Who issued the first bank-notes ?

The Venetians, in 1171.. They were not introduced into England till 1745.

When were bills of exchange first issued ?

In 1696, by Montague, Chancellor of the Exchequer.

When was money first coined ?

The first coining of Money, according to profane History, is attributed to the Lydians. The first coinage in Rome was during the Reign of Servius Tullius, B.C. 578.

What is the first notice of money in the Bible ?

We find that Abraham bought a field

for "current Money of the Merchants."

When were pins first made in England?
In the Reign of Richard III., 1483.

What were used prior to this invention?
Small Skewers of wood, or bone, or ivory.

When was the first British parliament?
It commenced in the time of the Saxons,
before the time of Egbert, and was
then called Wittenagemot, or "the Assembly of the Wise."

Who were members of the Wittenagemot?
The Nobles and Representatives, chosen
by the People.

When did the word parliament come into
use, and what does it mean?
It came into use in the time of William

the Conqueror, and it means Talking or Discussion, from the French word *parler*, to speak.

When did the English House of Commons arise ?

In the times of Henry the Sixth and Edward the First.

What is usually included in the name parliament ?

The House of Lords and the House of Commons.

Who invented oil painting ?

John Van Eyck, a painter of Flanders, who flourished A.D. 1400.

Who first introduced tobacco into England ?

Sir Walter Raleigh, from Virginia, in 1586.

What else did Sir Walter introduce?
The Potato into Ireland, where he cultivated it on his own estate.

Who introduced tea into England?
First the Dutch, in 1660; and the English East India Company began to import it in 1667.

• Who introduced coffee into England?
A Turkish Merchant, named Edwards, who sold Coffee in George-yard, Lombard-street.

When were silk-worms^s brought into England?
In the Reign of James I.; but the attempt failed, either because the Climate is too cold, or, as some suppose, because the Food provided for the Worms was the leaf of the Black Mulberry instead of the White.

When were beaver-hats first made?
In the Fourteenth Century.

By whom was the Bible first translated into
the English tongue?
By John Wiclif, in the year 1368.

When was it first printed in England?
In the years 1526 and 1532.

Who were the agents in this good work?
Miles Coverdale, and William Tin-
dale; the former printed the New
Testament in 1526, and the latter the
remainder of the Bible, except the
Apocrypha, in 1532.

Which are the other principal translations
of the Bible?
One called the Bishops' Bible, and the
one in common use, published by
order of James I.

What is the doomsday book?
A book still extant, in the Chapter

House, Westminster, which was made by order of William the Conqueror, for the Registry of all the Estates in the Kingdom.

What is the meaning of the word curfew? It is derived from the French *couvre-feu*, and means to cover or extinguish the Fire, which William the Conqueror ordered should be done by his Saxon Subjects every Night at Eight o'clock.

Which are the Cinque Ports? Originally they were five, as their name imports, Dover, Hastings, Hythe, Romney, and Sandwich.

Have any others been added to them? Yes; Winchelsea, Seaford, and Rye, and several others.

What is their origin? They were Ports to which Charters and

Liberties were granted, on condition of their furnishing the Crown with certain Ships, in time of War.

What is meant by the word sterling?

It was a name given to the best refined Gold, in ancient times, and is now applied to Current Money.

What is meant by the term deodand?

It is a contraction of the Latin *Deo dandum*, or given to God, and was formerly a Fine imposed upon individuals or articles causing unwittingly the Death of a Person.

To whom was the fine paid?

Generally to the Church, sometimes to the Crown, or the Lord of the Manor. It is now discontinued.

What is the origin of the office of parish beadle?

It is derived from the Saxon *Bidel*, or Public Crier.

What officers of the universities bear a similar name at the present time?

The Mace-bearers of the Universities, the chief of which are called Esquire Bedells or Beadles.

When were post-offices first established?

In the year 1649 a Post was established by the Parliament, for the safe conveyance of Official Letters, but no regular Post for the Public was established, till 1657.

When did the penny postage come into operation?

In the year 1843.

CHAPTER LI.

ANCIENT AND MODERN MEASURES AND WEIGHTS.

WHAT was the length of the Greek stadium ?

Six hundred English feet.

What was the length of the Greek olympic foot ?

Twelve Inches and Three Quarters.

What was the weight of the attic mina ?

Nearly an English pound of sixteen ounces.

What was the length of the cubit ?

About Eighteen Inches, or the length from the tip of the middle finger to the elbow, in a full grown man.

What was the length of the Roman foot?
Eleven Inches and Two-thirds of an
Inch.

What was the Roman mile, or milliarium?
One Thousand, Six Hundred and Eleven
Yards.

What is the meaning of the word millia-
rium?
It means consisting of a Thousand
Paces, from the Latin, *mille*, a Thou-
sand, from whence comes our word
Mile.

What was the length of the Jewish cubit?
Twenty-two Inches the great Cubit, and
Eighteen Inches the maller.

What was a homer?
Seventy-five Gallons and Three-eighths
of a Gallon.

What was an ephah?

Six Gallons and a Quarter.

What was the weight of the Jewish talent?

Ninety-three Pounds and Three Quarters, and its Worth was about Three Thousand Shekels.

What was a shekel?

As a Weight, it was about Half an Ounce; as a Silver Coin, it was worth about Two and Eight Pence.

What is the length of a nautical mile?

Two Thousand and Twenty-six Yards, and a half.

What is the length of a marine league?

Six Thousand and Seventy-nine Yards and a Half.

What is a fathom?

Six Feet.

What is the length of the English mile ?
One Thousand, Seven Hundred and
Sixty Yards.

What is the length of an Irish mile ?
Two Thousand, Two Hundred and
Forty Yards.

What is the length of a Scotch mile ?
One Thousand, Nine Hundred, and
Eighty-four Yards.

What is the length of a furlong ?
One-Eighth of a Mile.

What is the length of the German mile ?
Eight Thousand, One Hundred and
Six Yards.

What is the Italian mile ?
One Thousand, Seven Hundred and
Sixty-six Yards.

What is the length of the Dutch and
Prussian mile?

Six Thousand, Four Hundred and
Eighty Yards.

CHAPTER LII.

ARCHITECTURE.

WHAT is architecture?

The Art of Building.

In what does the excellence of architecture
consist?

In the proper Distribution of the Mate-
rials employed in an edifice, so as to
give it Strength, Convenience, Beauty
and Proportion.

What are the earliest architectural edifices on record ?

The Tower of Babel, the Walls of Babylon, and the Temple of Belus.

What are the different orders of Grecian and Roman architecture ?

The Tuscan, the Doric, the Ionic, the Corinthian, and the Composite.

What is the character of the Tuscan order ?

Its Proportions are very Strong and Massive, and it admits of but few Ornaments ; it is hence frequently called the Rustic Order.

What is the character of the Doric order ?

It is Grave, Strong, and of Masculine Appearance, whence it is figuratively called the Herculean Order.

Why does Herculean denote strong?
Because the Grecian Hero Hercules was remarkable for his Strength.

What celebrated buildings are of this order?
The great Temple of Minerva, at Athens, built under the direction of Pericles; and the Temple of Theseus, built ten years after the Battle of Marathon.

What is the character of the Ionic order?
It is more Slender and Graceful than the Doric.

What celebrated building is of this order?
The Temple of Erectheus, commonly called the Erectheum, at Athens.

What is the leading character of all the orders you have mentioned?
They are chiefly applied to Buildings which consist of a Roof supported by Pillars continued all round the Structure.

Of how many principal points does a pillar consist?

Three; the Capital or Chapter, which is the ornamented part at the top; the Shaft, which is the long middle portion; and the Base.

What is Gothic architecture?

The Architecture of the Saxons, Normans, and other Northern Nations.

What are the characters of the Saxon architecture?

The Semi-circular Arch, and Short, Thick Columns.

Which is the chief specimen of this style?

The North Transept of Winchester Cathedral.

What is the Norman architecture?

The Architecture in use amongst the Normans.

What is the character of it?

It is very nearly the same as the Saxon Style.

Where may good specimens of this architecture be seen?

In the Cathedral at Durham; the ruined Choir of the Church at Orford, in Suffolk; and the Crypt or under Croft of Canterbury Cathedral.

What is supposed to have been the origin of the Gothic architecture?

The style is supposed to be of Eastern Origin.

Into what stages has Gothic architecture been distinguished, besides those you have mentioned?

The Early English, the Florid Style, and the Perpendicular or Tudor Style.

Which are the finest Gothic buildings in the world ?

The Cathedrals of York, Cologne, Salisbury and Lincoln, and the Chapel of King's College, Cambridge.

During what centuries were these built ?

The 13th, 14th and 15th.

Which are some of the finest specimens of the Tudor or perpendicular style ?

Henry the Seventh's Chapel in Westminster Abbey, and the new Houses of Parliament.

For what is Gothic architecture best adapted ?

For the building of Cathedrals and other Churches.

Is architecture declining in England ?

It had been from the reign of Henry the Seventh till within these last few years, during which, a great improvement has taken place in it.

What will be the probable result of this improvement?

Better Dwellings for all Classes, and the Cultivation of Art among the People at large.

CHAPTER LIII.

MYTHOLOGY.

WHAT is mythology?

A History of the fabulous Gods of Pagan Nations.

What nations are most famous for their mythology?

The ancient Egyptians, Grecians and Romans.

What was the names of the principal gods of the ancient Egyptians?

Isis, Osiris, Orus, Anubis, Thoth or Taut, Knuph and many others.

Did the worship of all these deities prevail over the whole land of Egypt ?

No ; some were worshipped in one part and some in another.

What remarkably distinguished the religion of the ancient Egyptians ?

The Reverence paid to Quadrupeds, Birds, Reptiles and Insects, and even to some kinds of Vegetables.

What animals appear to have been treated with the greatest respect ?

The Ox, the Crocodile, the Cat, the Hawk, and a kind of stork called the Ibis.

How did the Egyptians treat their dead ?

They embalmed and preserved with the greatest care the Bodies, both of Men and of their Sacred Animals.

Do we find this practise mentioned in scripture?

Yes; the body of Joseph was embalmed.

What was the cause of this strange custom?
The belief that after a long time the Soul would return and re-animate the Body.

Which were the chief deities worshipped by the ancient Greeks?

Jupiter, Neptune, Pluto, Juno, Minerva, Venus, Mars, Vulcan, Apollo, Diana, Mercury or Hermes, Saturn, and Vesta or Ops.

Who was Jupiter, according to fable?

The most powerful of the Gods, and Son of Saturn and Ops.

How was he represented?

As sitting majestically upon a Throne, grasping a Thunderbolt, with an Eagle at his Feet.

Who was Juno?

The Sister and Wife of Jupiter.

How was she represented?

As clothed in a beautiful Robe, and seated on a Throne, crowned and holding a Sceptre, her Head encircled by a Rainbow, with a Peacock at her Feet.

Who was Neptune?

The Brother of Jupiter, and the God of the Sea.

How is he commonly represented?

As standing in a Chariot formed of a Shell, drawn by Sea Horses, holding a Trident in his right hand, and attended by Tritons.

Who was Pluto?

Another Brother of Jupiter, and the God of the Regions of the Dead.

Who was Minerva?

The Goddess of Wisdom, and Patroness of the Arts.

How is she represented?

As standing erect, with a Helmet on her Head, grasping a Spear in her Hand, and having a Shield on her Arm.

Who was Venus?

The Goddess of Beauty and Love.

How is she represented?

Generally as a beautiful Woman, attended by Cupids, and drawn in a beautiful Car by Doves or Swans.

Who was Mars?

The God of War.

How is he represented?

Riding in a Chariot drawn by Horses, which were driven by a distracted Female.

Who was Vulcan?

The God of Fire, the Inventor of Arms and other Articles made from Metal, and the Maker of Jupiter's Thunderbolts.

How is he represented?

As lame and deformed, holding a Hammer in his Hand, ready to strike, with his Face red with Heat, and his whole Person blackened by the Smoke of his Forge.

Who were said to be his workmen?

The Cyclops, Giants with a single eye in the midst of their forehead.

Who was Mercury or Hermes?

The Messenger of the Gods, the Patron of the Merchants and Orators; he was also sometimes regarded as the God of Thieves and Rogues.

How was he represented ?

As a Young Man, slender and light, having on his head the petasus or winged cap, and wings on his feet ; in his hand he bore the Caduceus or Wand, round which are entwined two Serpents.

Who was Apollo ?

The Son of Jupiter and Latona ; the God of the Fine Arts, of Music and of Poetry, of which he was considered the Inventor.

How is he represented ?

As a Man in the First Bloom of Life, of great Beauty, without a Beard, holding a Bow in his Hand, and with a Quiver at his Back.

Who was Diana ?

The Goddess of Hunting, and of the Woods, and also of Chastity.

How was she represented ?

As a beautiful Female, with a Bow in her Hand, Arrows at her Back, and a Crescent on her Forehead.

Who was Ceres ?

The Goddess of Agriculture. She is dressed in a long Robe, has a Sickle in her Hand, and her Head is adorned with Ears of Corn.

Who were the muses ?

Goddesses, who, under the direction of Apollo, presided over the Arts, such as Poetry, Music and Dancing.

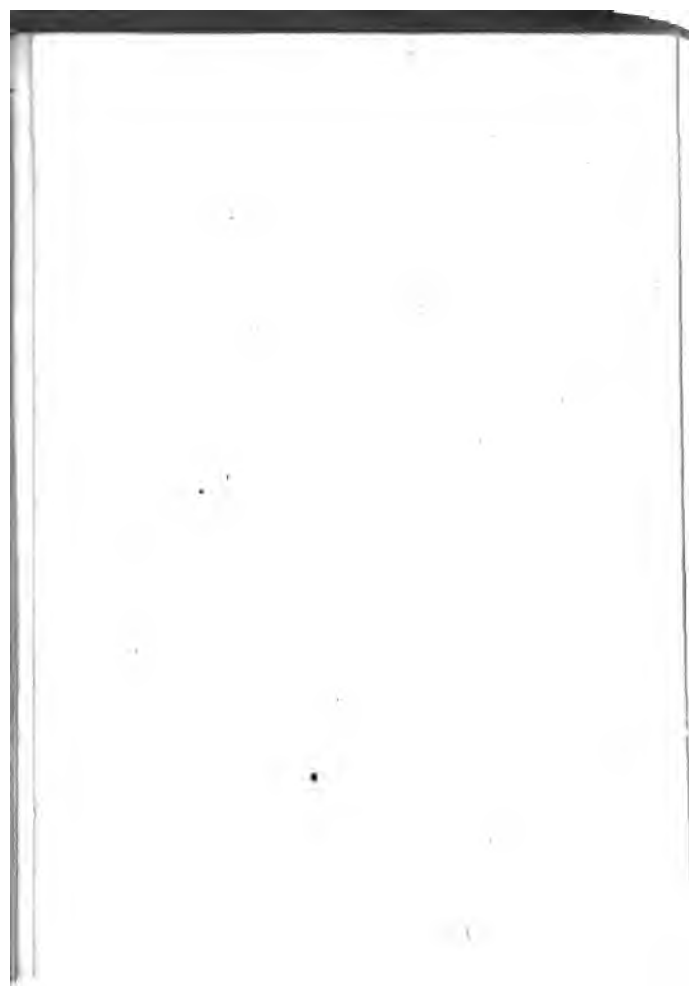
What were their names ?

Clio, who presided over History ;
Thalia, the patroness of Comedy ;
Melpomene, over Tragedy ;
Urania, over Astronomy ;
Polyhymnia, over Singing ;
Calliope, over Eloquence ;

Erato, over Lyric Poetry ;
Euterpe, over Music ; and,
Terpsichore, over Dancing.

What was the religion of the ancient
Romans ?

It closely resembled that of the ancient
Greeks, in the Objects of its Worship.





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